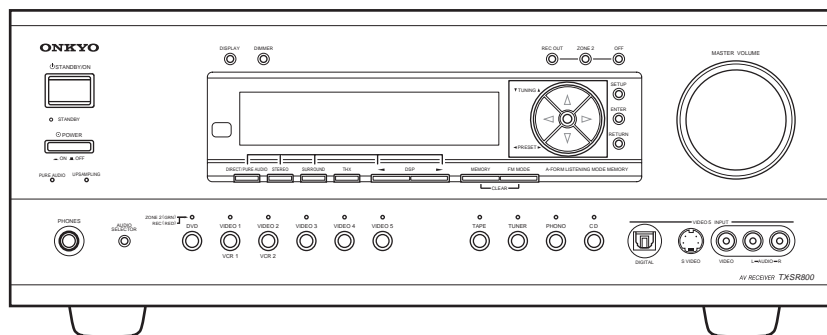


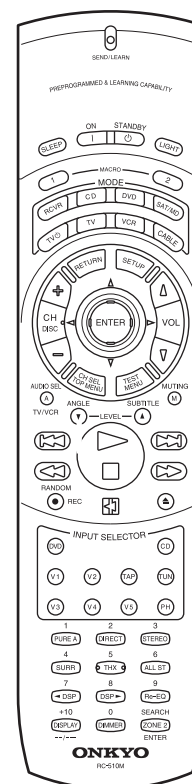
ONKYO SERVICE MANUAL

AV RECEIVER MODEL TX-SR800




Black and Golden models

BMDD,BMDC	120V AC, 60Hz
BMPA,GMPPA	230~240V AC, 50Hz
BMWT,GMWT,GMWR	120/220~230V AC, 50/60Hz
GMGT	220V AC, 50Hz



SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

SPECIFICATIONS

AMPLIFIER SECTION

Continuous average power output (FTC)

All channels: 100 W per channel min. RMS at 8 Ohm, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion. 130 W min. RMS at 6 Ohm, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.

Continuous power output (DIN) 135 W at 6 Ohm

Maximum power output (EIAJ) 160 W at 6 Ohm

Dynamic power output (stereo) 2 x 250 W at 3 Ohm

2 x 210 W at 4 Ohm

2 x 130 W at 8 Ohm

Total harmonic distortion: 0.08% at rated power

0.08% at 1 W output

IM distortion: 0.08% at rated power

0.08% at 1 W output

Damping factor: 60 at 8 Ohm

Input sensitivity and impedance

PHONO: 2.5 mV, 50 kohm

LINE (CD, TAPE, DVD,

VIDEO 1-5): 200 mV, 50 k ohm

MULTICHANNEL INPUT

(FRONT L/C/R, SURROUND

L/R, SURROUND BACK L/R): 200 mV, 50 kohm

(SUBWOOFER): 36 mV, 50 k ohm

COAXIAL 1, 2, 3 (DIGITAL): 0.5 Vp-p, 75 Ohm

DVD, VIDEO 1, 2, 3, 4, 5: 1 Vp-p, 75 Ohm

1 Vp-p, 75 Ohm (Y)

0.28 Vp-p, 75 Ohm (C)

COMPONENT VIDEO 1, 2: 1 Vp-p, 75 Ohm (Y)

0.7 Vp-p, 75 Ohm (P_B, P_R)

Output level and impedance

Rec out (TAPE, VIDEO 1, 2):

200 mV, 470 Ohm

Pre out: 1 V, 470 Ohm

VIDEO (VIDEO 1, 2, MONITOR

OUT, ZONE 2 OUT): 1 Vp-p, 75 Ohm

1 Vp-p, 75 Ohm (Y)

0.28 p-p, 75 Ohm (C)

COMPONENT VIDEO OUT: 1 Vp-p, 75 Ohm (Y)

0.7 Vp-p, 75 Ohm (P_R, P_B)

Phono overload: 120 mV RMS at 1 kHz, 0.5% T.H.D.

Frequency response: 10 Hz to 100 kHz : +1/-3 dB

(CD in Direct mode)

RIAA deviation: 20 Hz to 20 kHz : ±0.8 dB

Tone Control

Bass: ±10 dB at 50 Hz

Treble: ±10 dB at 20,000 Hz

Signal-to-noise ratio (Direct)

Phono: 80 dB (IHF A, 5 mV input)

Line: 110 dB (IHF A, 0.5 V input)

Muting: Due to setup menu

TUNER SECTION

FM

Tuning range

USA & Canadian models: 87.5–108.0 MHz (100-kHz steps)

Other models: 87.50–108.00 MHz (50-kHz steps)

Usable sensitivity

Mono:

11.2 dBf, 1.0 µV (75 Ohm IHF)

0.9 µV (75 Ohm DIN)

Stereo:

17.2 dBf, 2.0 µV (75 Ohm IHF)

23 µV (75 Ohm DIN)

50 dB quieting sensitivity

Mono:

17.2 dBf, 2.0 µV (75 Ohm)

Stereo:

37.2 dBf, 20 µV (75 Ohm)

Capture ratio:

2.0 dB

Image rejection ratio

USA & Canadian models:

40 dB

Other models:

85 dB

IF rejection ratio:

90 dB

Signal-to-noise ratio

Mono:

76 dB

Stereo:

70 dB

Alternate channel attenuation:

55 dB

Selectivity:

50 dB (DIN)

AM suppression ratio:

50 dB

Total harmonic distortion

Mono:

0.2%

Stereo:

0.3%

Frequency response:

30 Hz – 15 kHz, ±1.0 dB

Stereo separation:

45 dB at 1 kHz

30 dB at 100 Hz – 10 kHz

AM

Tuning range

USA & Canadian models:

530 to 1,710 kHz (10-kHz steps)

Some Asian and Australian

models:

522 to 1,611 kHz (9-kHz steps)

Worldwide models:

522 to 1,611 kHz (9-kHz steps)

Usable sensitivity:

30 µV

Image rejection ratio:

40 dB

IF rejection ratio:

40 dB

Signal-to-noise ratio:

40 dB

Total harmonic distortion:

0.7%

GENERAL

Power supply

USA & Canadian models:

AC 120 V, 60 Hz

Australian models:

AC 230–240 V, 50 Hz

Some Asian models:

AC 220–230 V, 50/60 Hz

Worldwide models:

AC 220–230 and 120 V switchable,
50/60 Hz

Power consumption

USA & Canadian models:

8.1 A

Other models:

655 W

Dimensions (W x H x D):

435 x 175 x 459 mm

17-1/8" x 6-7/8" x 18-1/14"

Weight

USA & Canadian models:

35.9 lbs.

Other models:

17.3 kg

REMOTE CONTROLLER

Transmitter:

Infrared

Signal range:

Approx. 16 ft., 5 meters


Power supply:


Two "AA" batteries (1.5 V x 2)

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacing the fuses

 This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilise est a rapide. Pour une protection permanente, n'utiliser que fusibles de meme type. Ce dernier est la qu le present symbol est appse.

CIRCUIT NO.	PART NO.	DESCRIPTION
F6901,F6902	252199	10A-UL, Fuse <D>
	252100	10A-EAK, Fuse <O>
F901	252199	10A-UL, Fuse <D/T/R>
	252077,	4A-SE-EAK,
F902	252243 or	4A-SE-TL250V or
	252277	4A-SE-TL250V, Fuse <O>
F903	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
F9501,F9502	252275	2.5A-SE-TL250V, Fuse <O>
	252160 or	2.5A-UL/T-237 or
F9503,F9504	252254	2.5A-T/UL-ST2, Fuse <D>
	252075,	2.5A-SE-EAK,
	252241 or	2.5A-SE-TL250V or
	252275	2.5A-SE-TL250V, Fuse <O>
	252158 or	1.6A-UL/T-237 or
	252252	1.6A-T/UL-ST2, Fuse <D>
	252073,	1.6A-SE-EAK,
	252239 or	1.6A-SE-TL250V or
	252273	1.6A-SE-TL250V, Fuse <O>

Note:
 <D>: 120V model only
 <O>: Except 120V model
 <T>: Worldwide model only
 <R>: Chinese model only

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. Press the STANDBY ON button to turn on the unit.
2. Press and hold down the VIDEO 1 button, then press the STANDBY/ON button.
3. After "CLEAR" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.
4. Unplug the power supply cord.

3. Safety-check out

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel. Specifications: 3.3Mohm+/-10% at 500V.

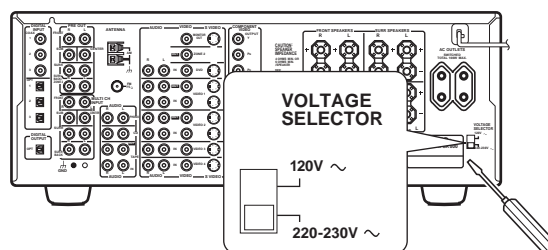
4. Memory Preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.

The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

5. Setting the voltage selector (Worldwide models only)

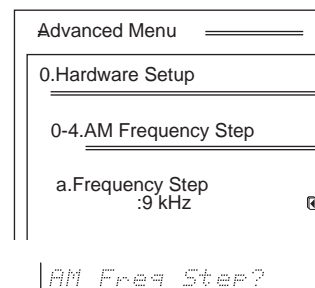
Worldwide models are equipped with a voltage selector so that you can set your TX-SR800 to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before plugging in the unit. Determine the proper voltage for your area: 120V or 220V. If the preset voltage is not correct for your area, insert a screwdriver into the groove in the switch and slide the switch all the way to the top (120 V) or bottom (220-230 V), whichever is appropriate.



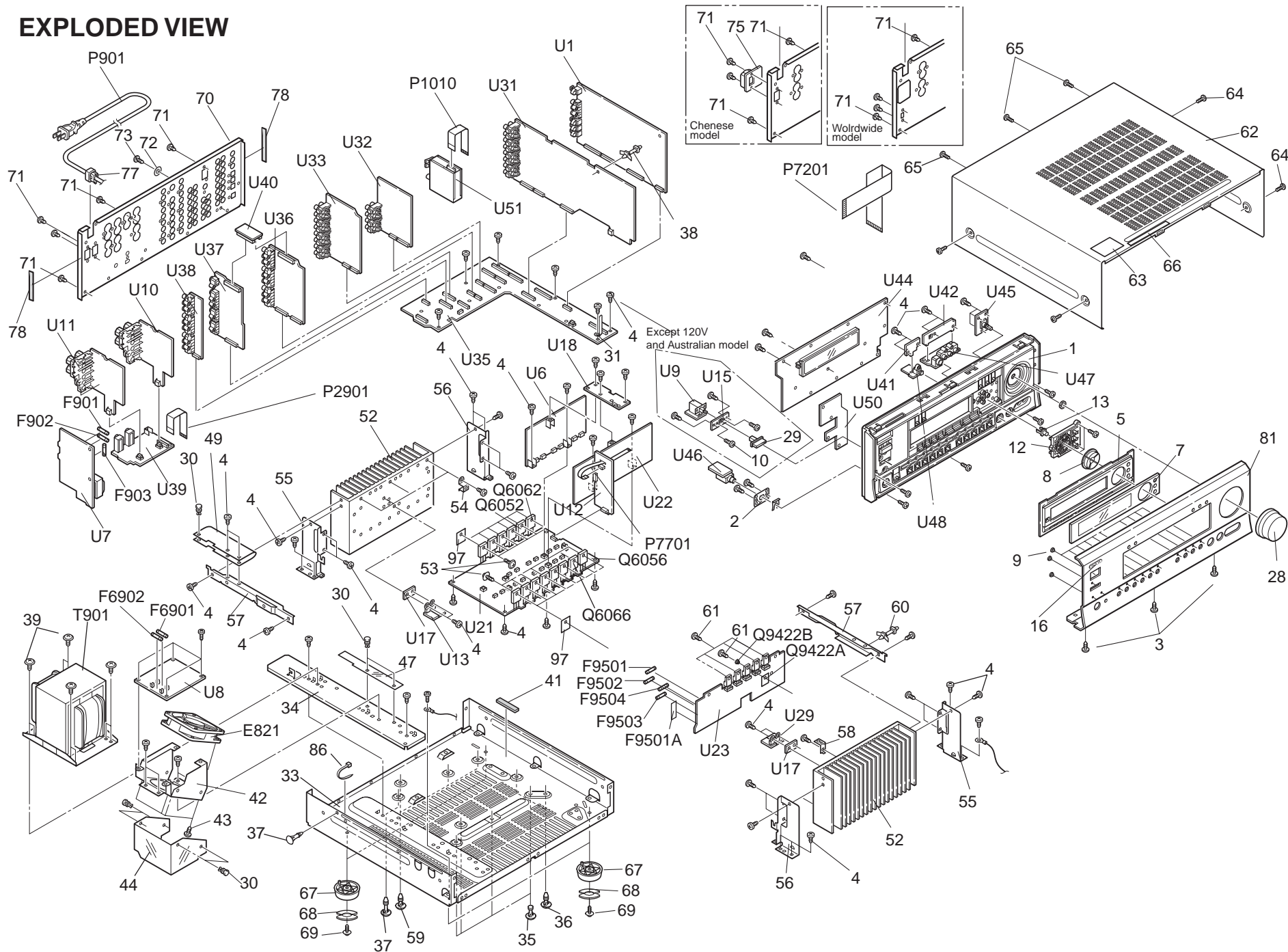
6. AM Frequency Step Sub-menu (Worldwide model Only)

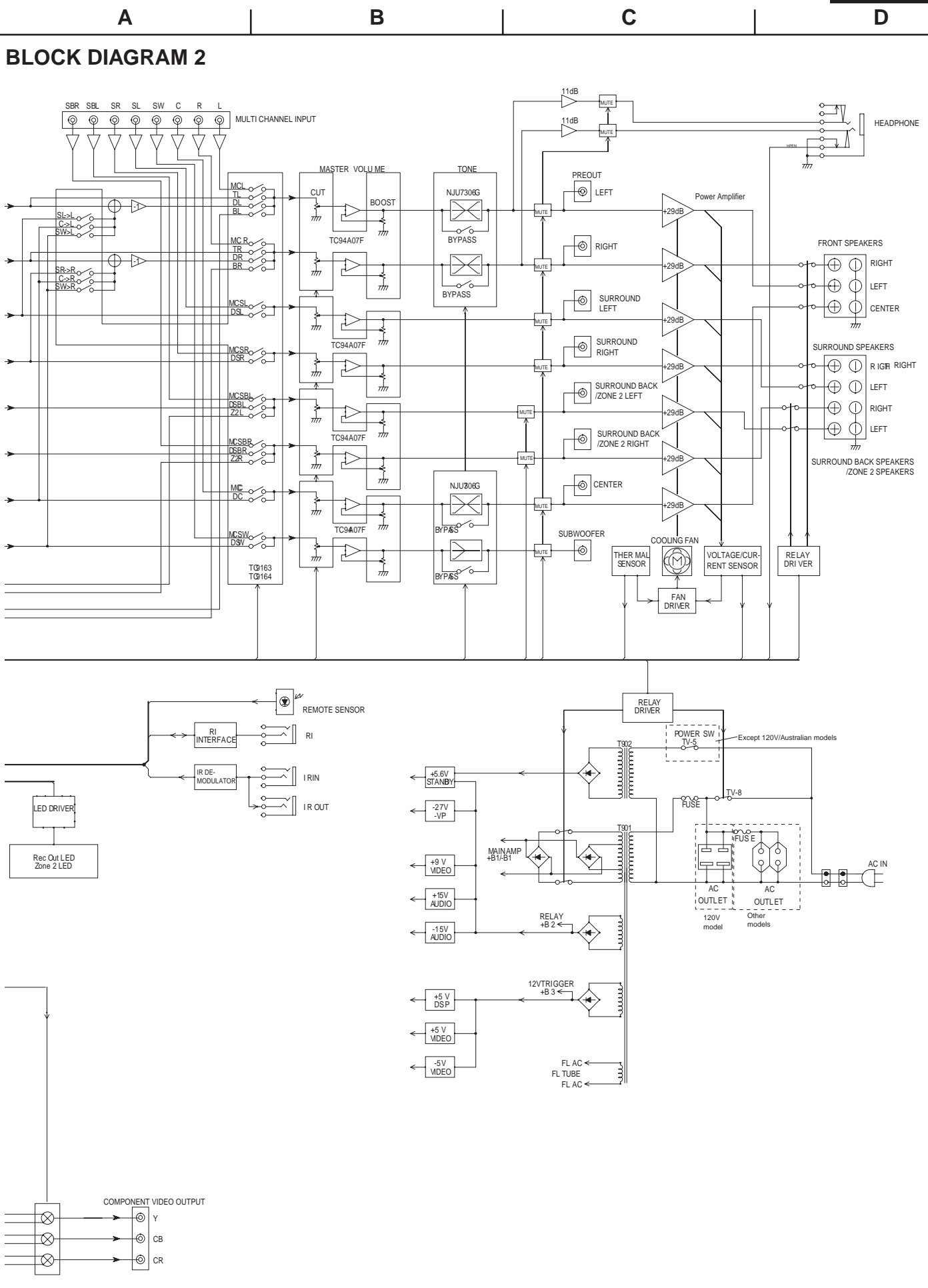
a. Frequency Step

This sub-menu only appears on the worldwide model. The setting in this sub-menu determines the increment amount or decrement amount when adjusting the AM tuner frequency. The initial setting is 9 kHz, and this needs only to be changed if you are using the TX-SR800 in a 10-kHz region.

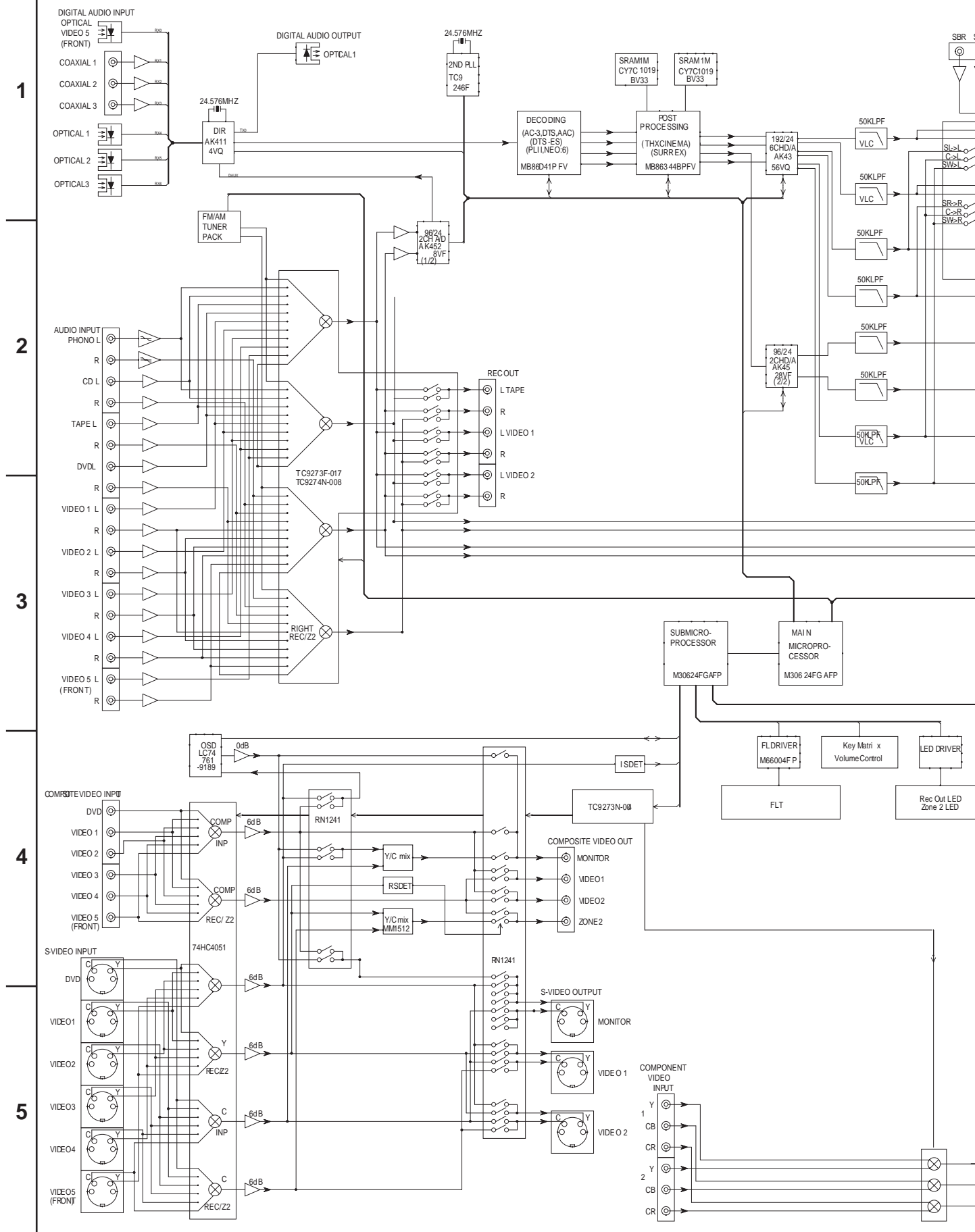


EXPLODED VIEW



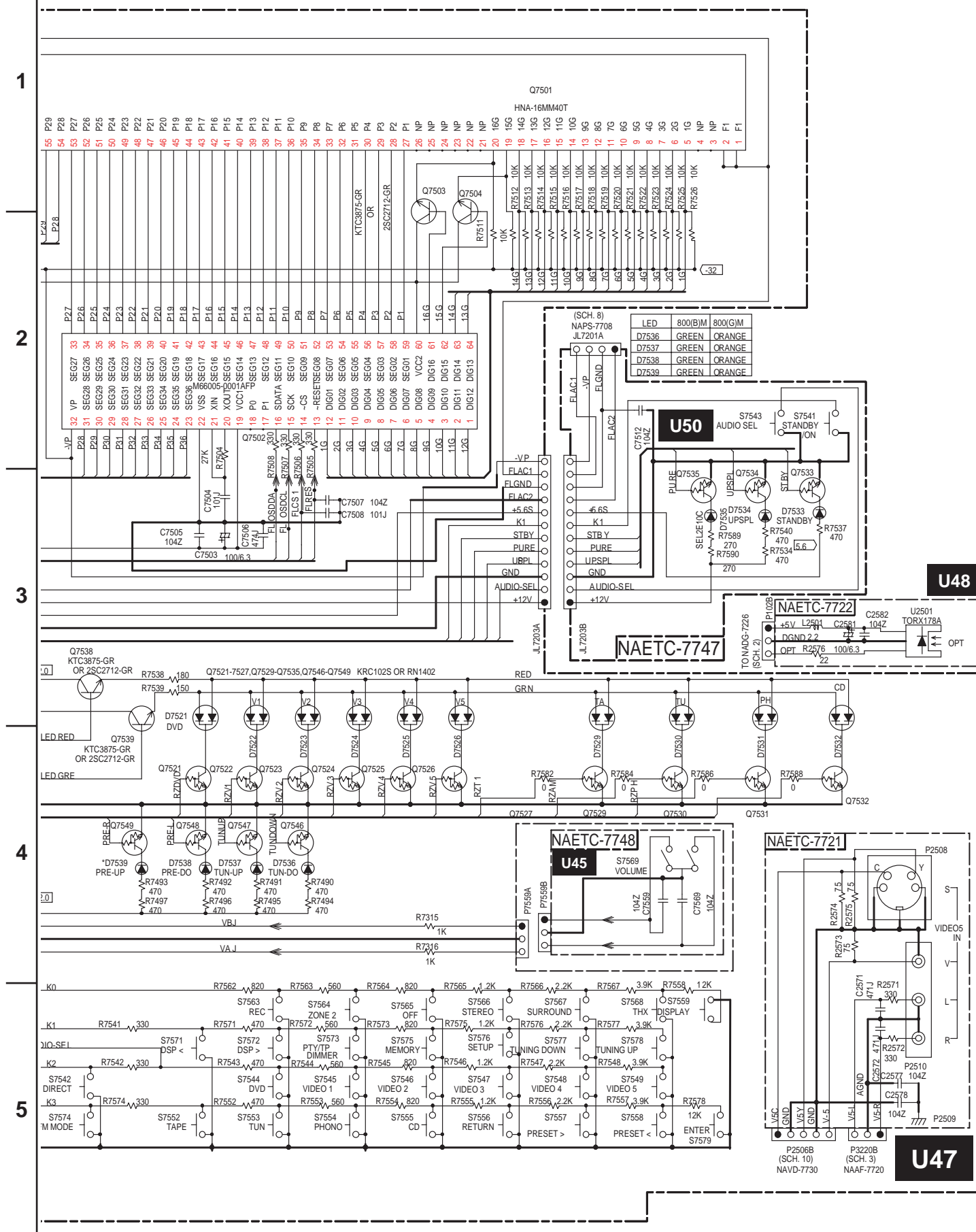


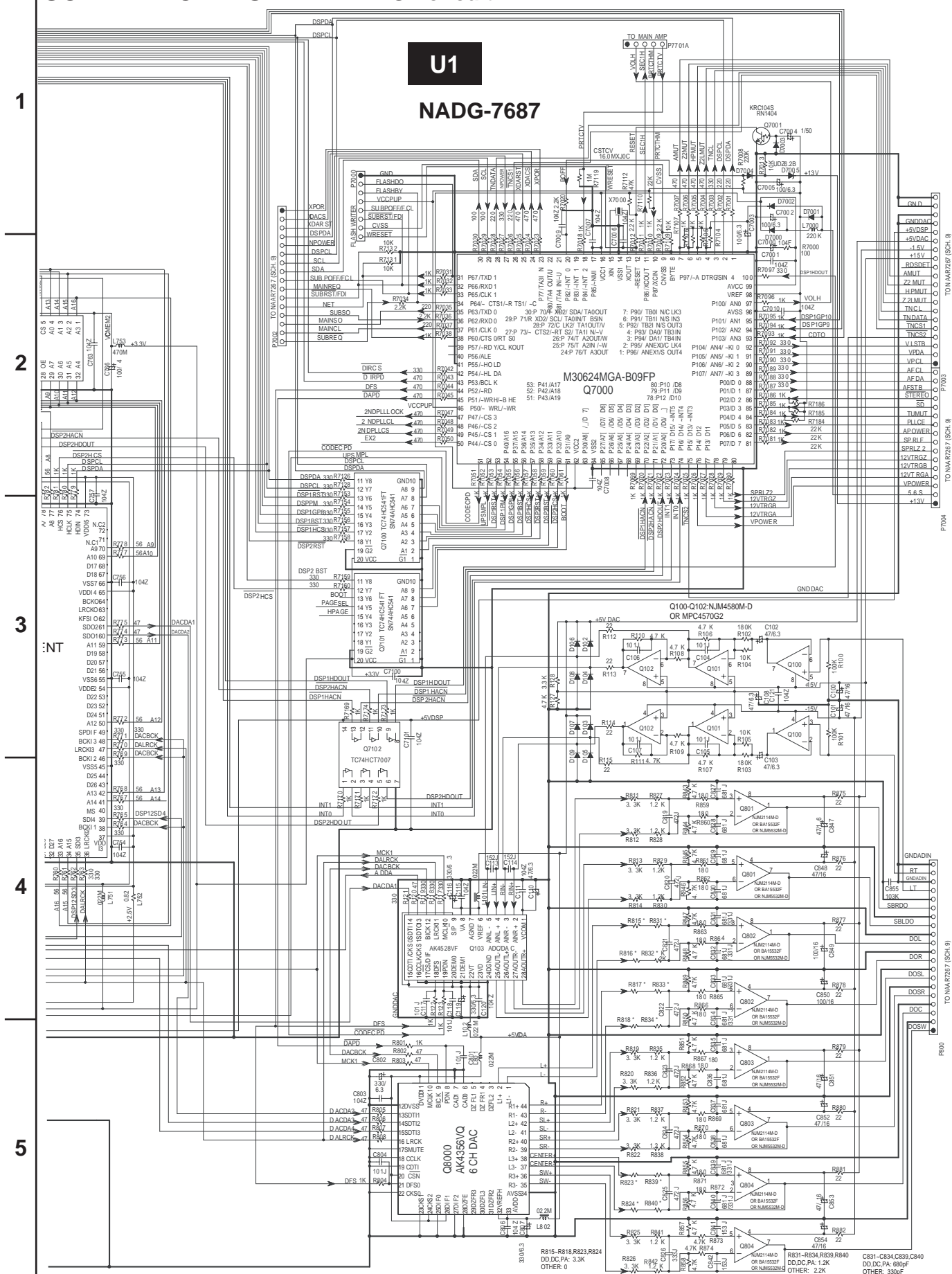
BLOCK DIAGRAM 1

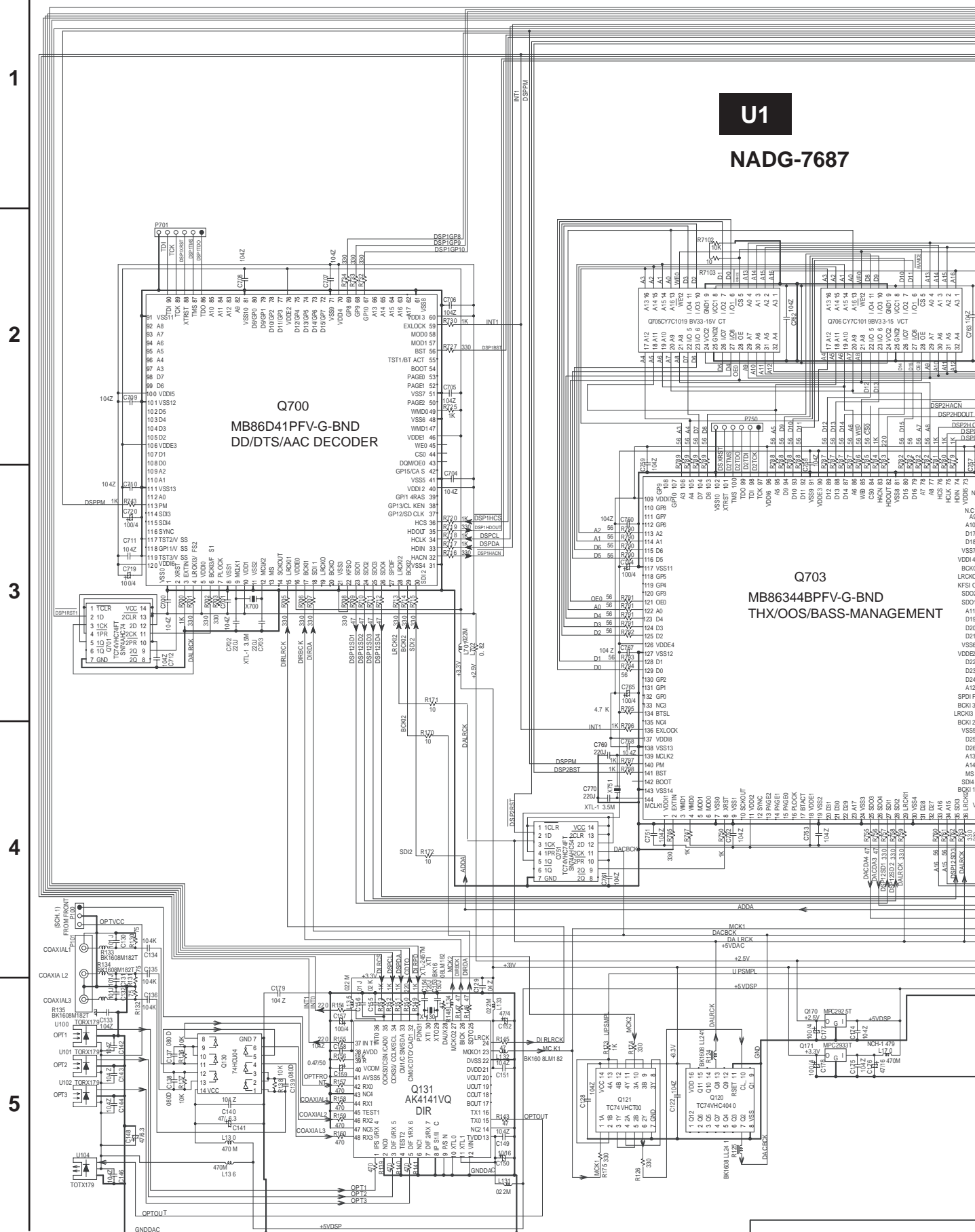


A | **B** | **C**

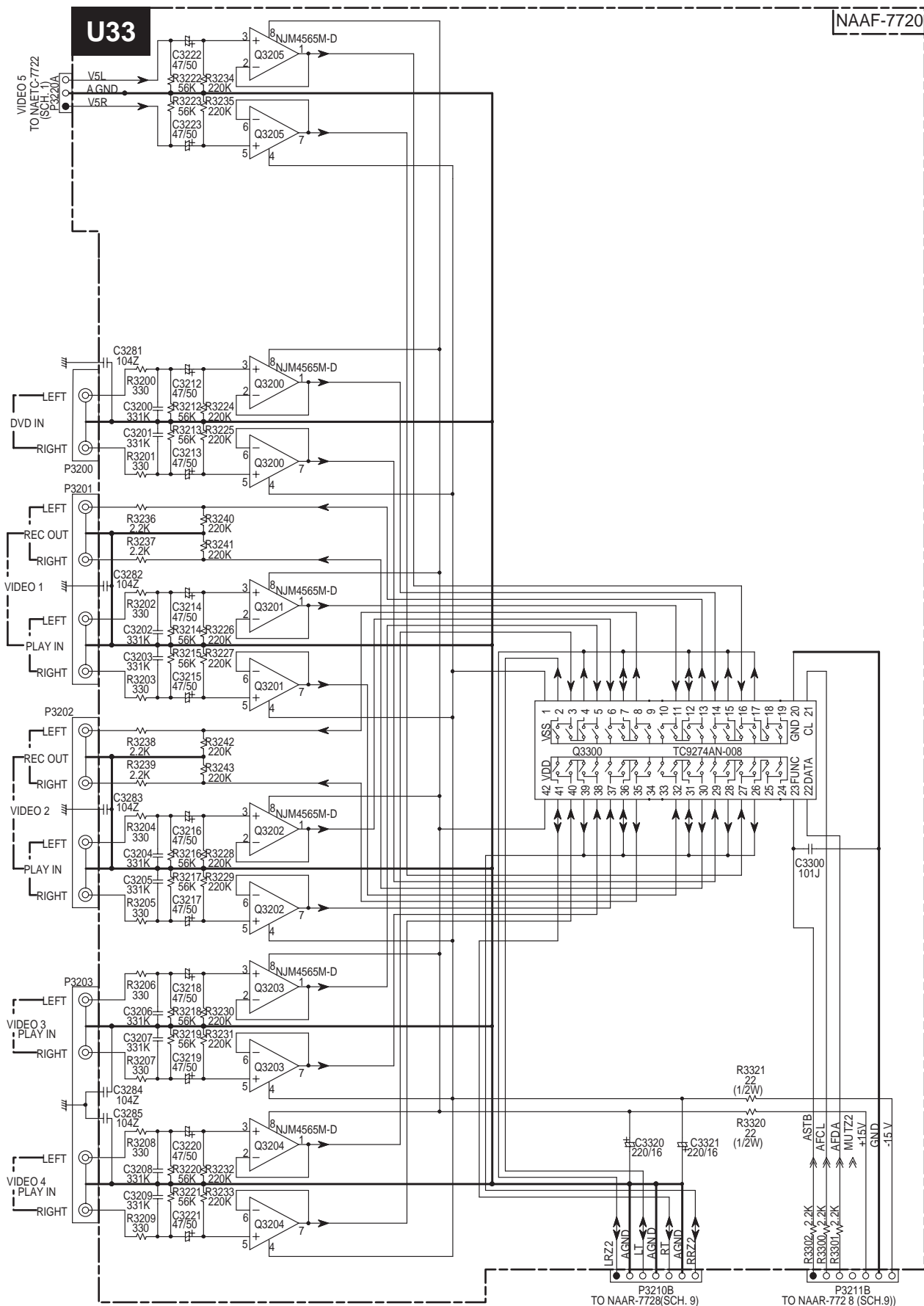
SCHEMATIC DIAGRAM 1-2 Sub-microprocessor and display sections

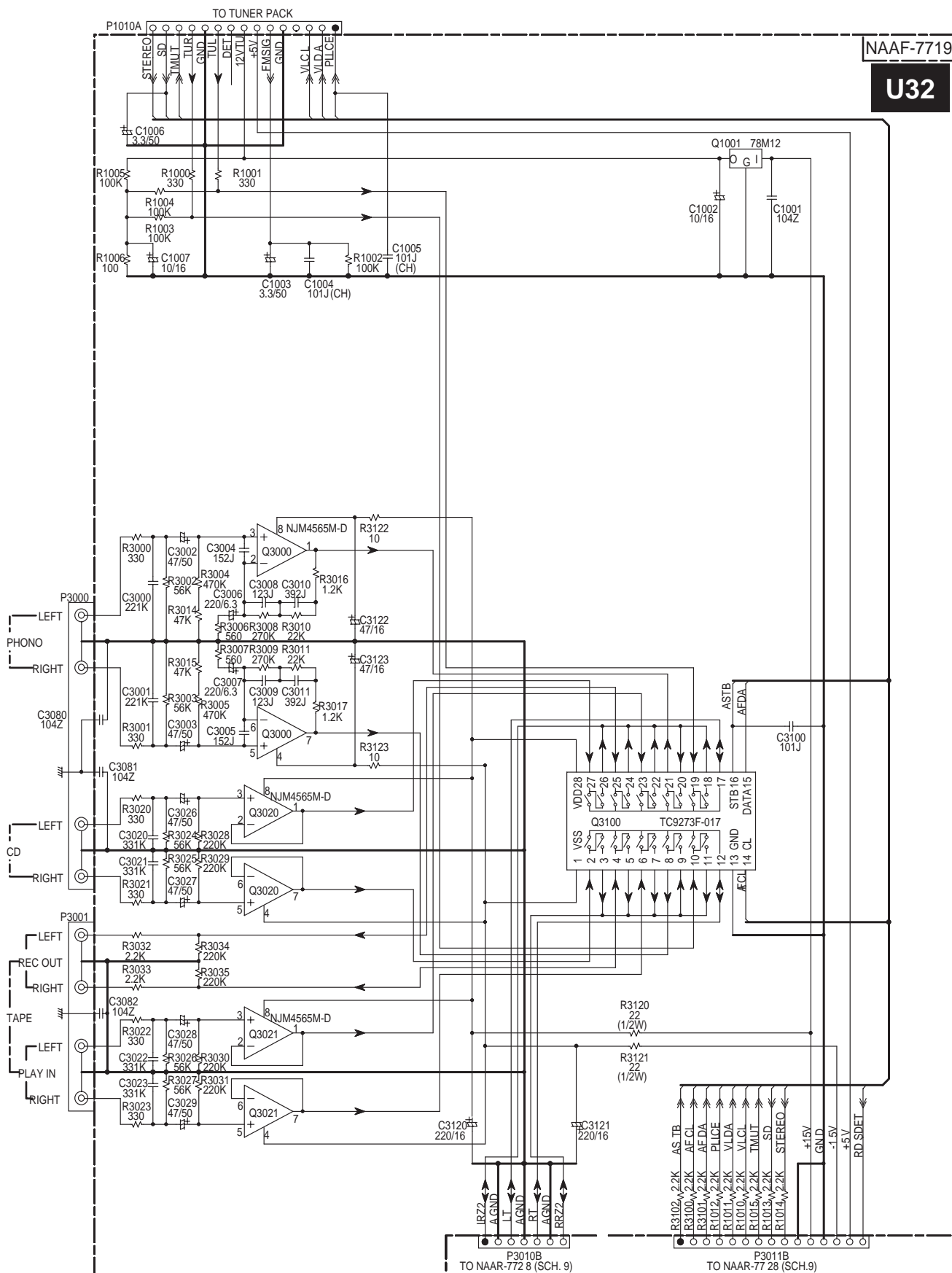




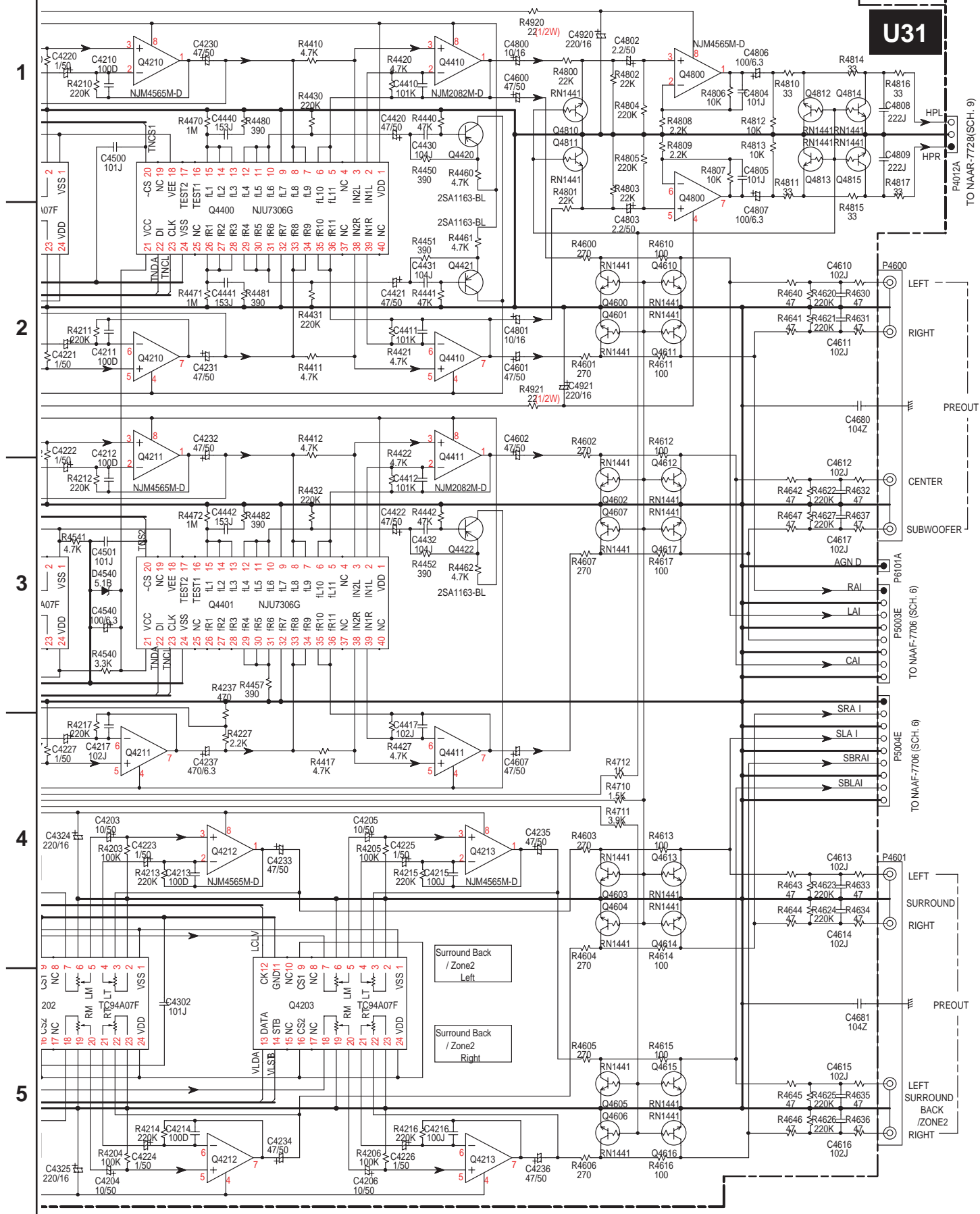


SCHEMATIC DIAGRAM 3-1 Audio I/O terminal section



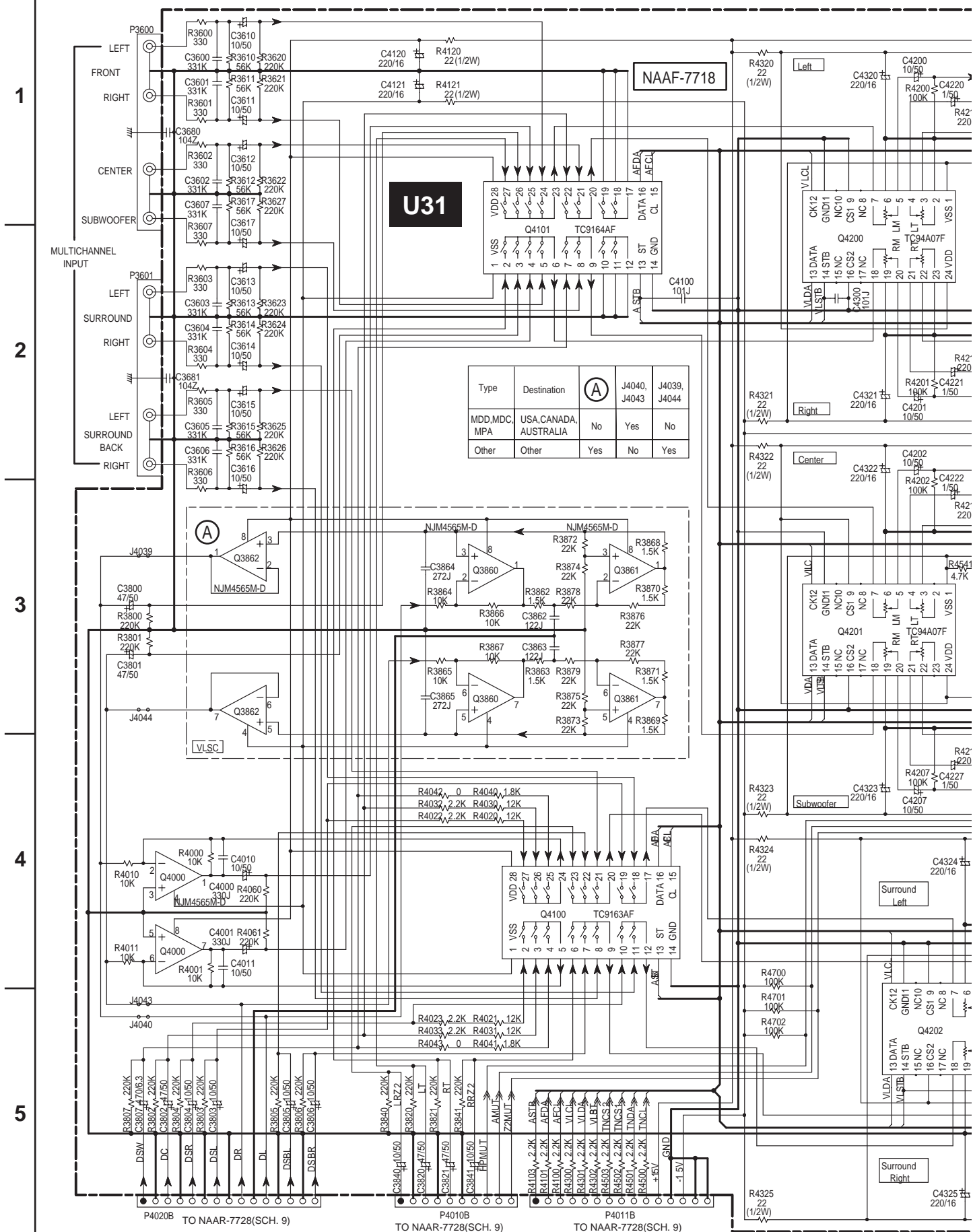


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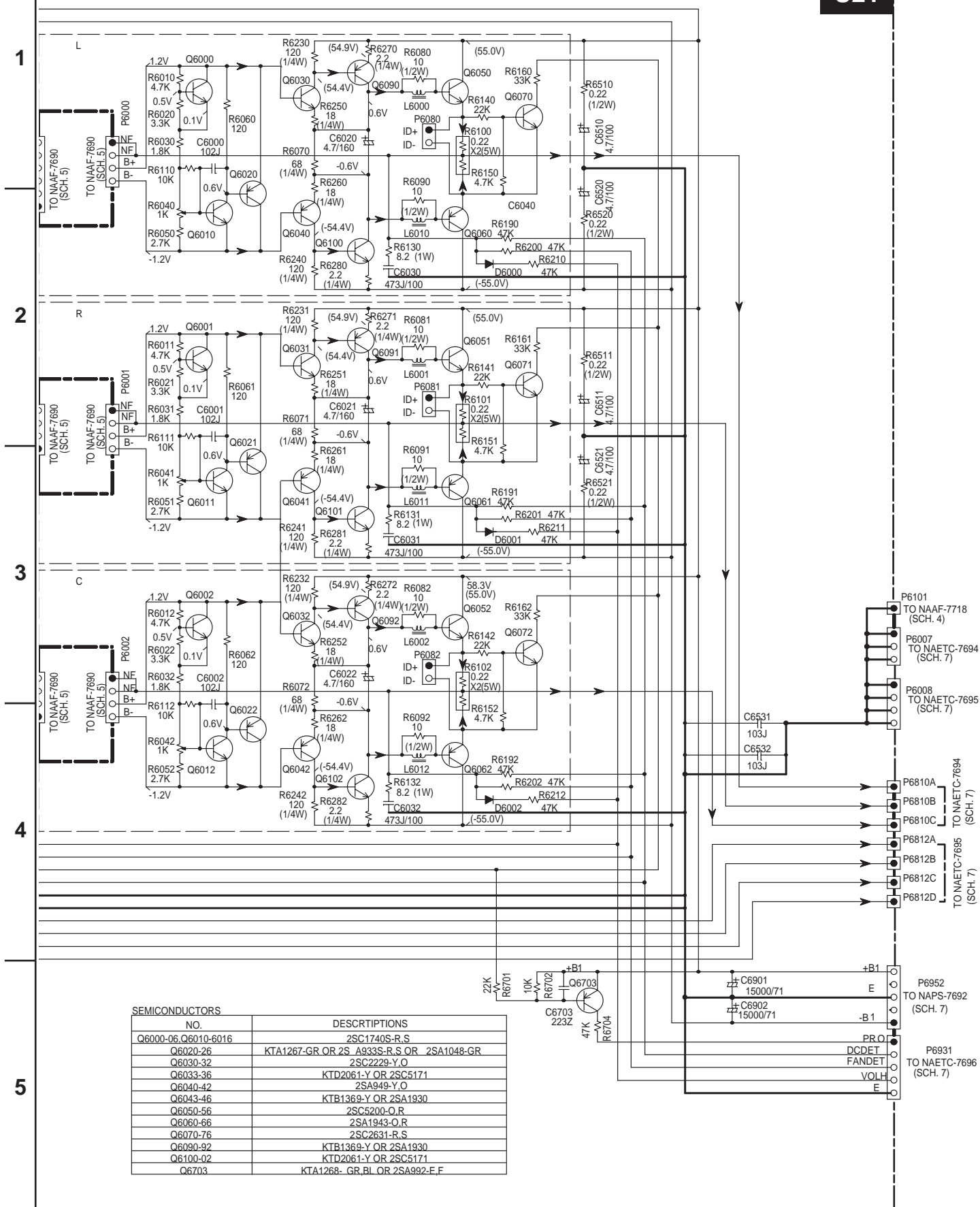
A | **B** |

SCHEMATIC DIAGRAM 4-1 Pre-amplifier section



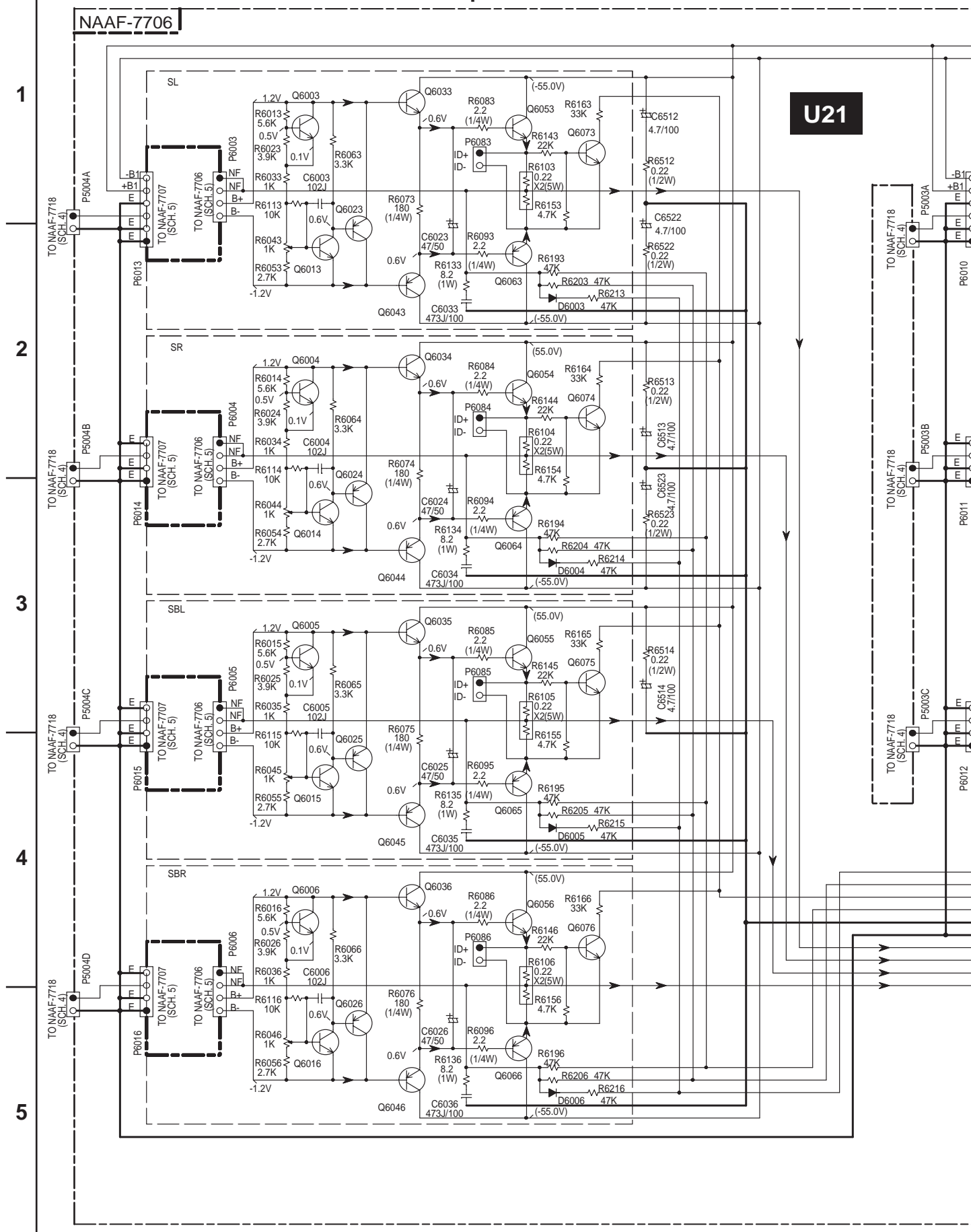
SCHEMATIC DIAGRAM 6-2 Power amplifier section

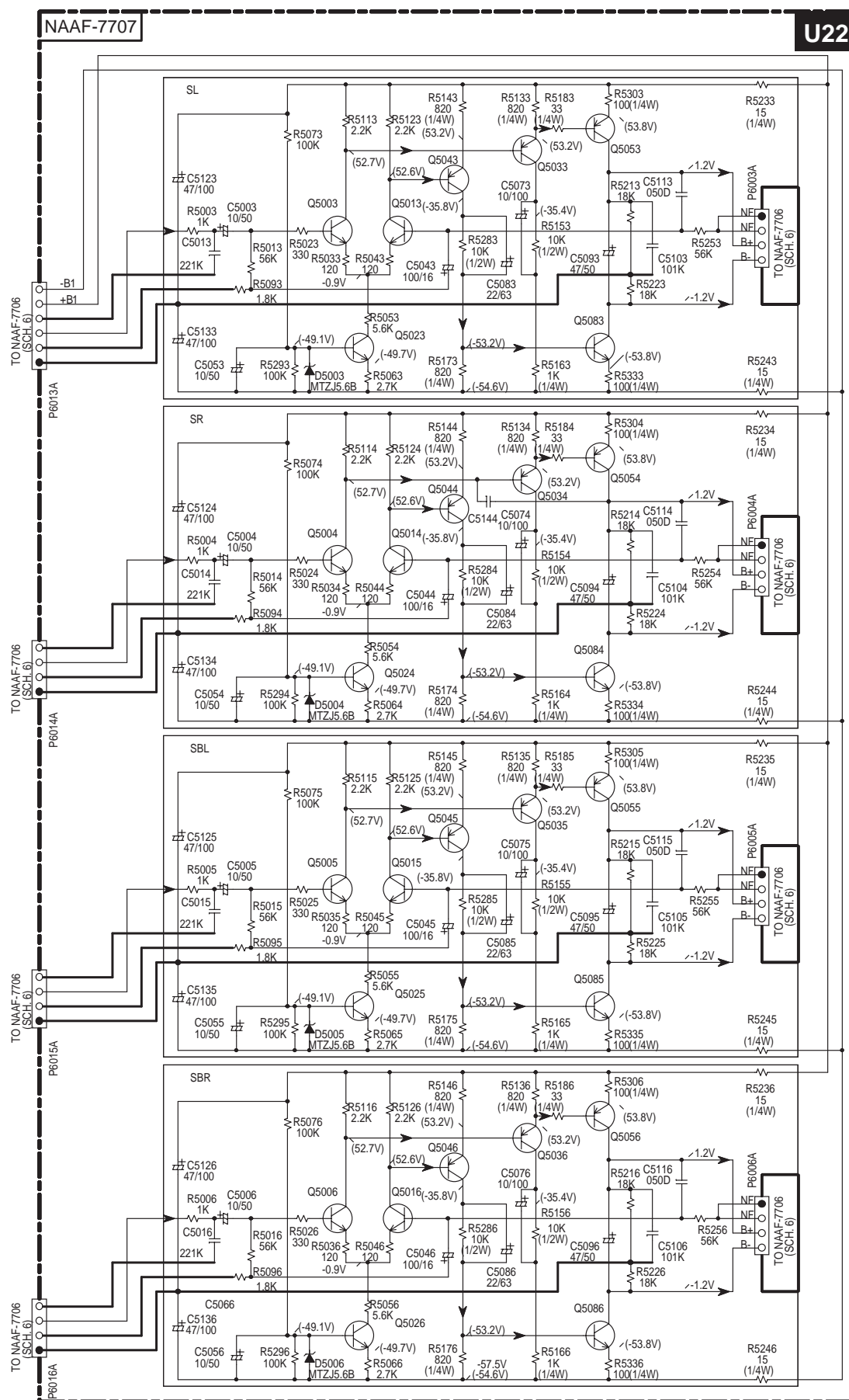
U21



A | **B** |

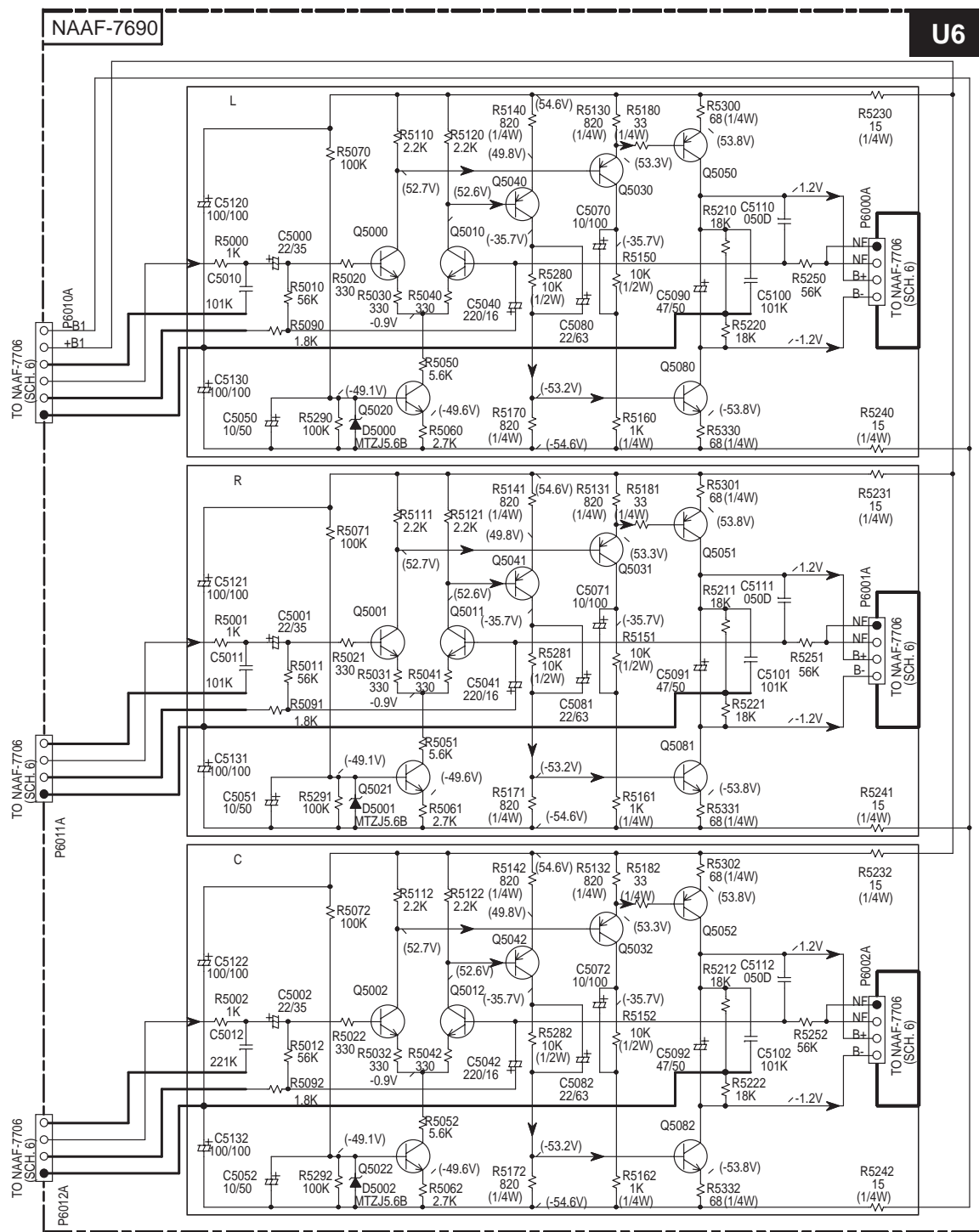
SCHEMATIC DIAGRAM 6-1 Power amplifier section





SCHEMATIC DIAGRAM 5-2

Driver circuit section



SEMICONDUCTORS

NO	
Q5000-06, Q5010-16	KTC3200-BL, 2SC1775A-E, F OR 2SC1845-E
Q5020-26	KTC3200-BL, 2SC1775A-E, F OR 2SC1845-E
Q5030-36, Q5040-46	KTA1024-Y.O OR 2SA949-Y.O
Q5050-52	2SA1360-Y.O
Q5053-56, Q5073-76	KTA1024-Y.O OR 2SA949-Y.O
Q5060-62	2SC3423-Y.O
Q5063-66, Q5080-83	KTC3206-Y.O OR 2SC2229Y.O

NOTE

THE COMPONENTS IDENTIFIED BY MARK Δ ARE CRITICAL FOR SAFETY. REPLACE ON LY WITH PART NUMBER SPECIFIED.

VOLTAGE (MEASURED WITH VOLTMETER) Δ () IS DC VOLTAGE (NO INPUT SIGNAL).

ELECTROLYTIC CAPACITORS (Δ) ARE IN μ F/VV.

ALL CAPACITORS ARE IN pF/50V UNLESS OTHERWISE NOTED.

EX) 030-3pF 330-33pF 331-330pF 333pF-0.033uF

ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.

THE THICK LINE ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.

EX) Δ PRINTING SIDE

CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

SCHEMATIC DIAGRAM 8 Power supply section

THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE FUSE HAZARD. REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL.

CE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISÉ EST À LENT, É POUR UNE PROTECTION PERMANENTE CONTRE LE RISQUE D'INCENDIE. REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MÊME TYPE. CE DERNIER EST INDIQUE LA OU LE PRÉSENT SYMBOLE EST APPOSÉ.

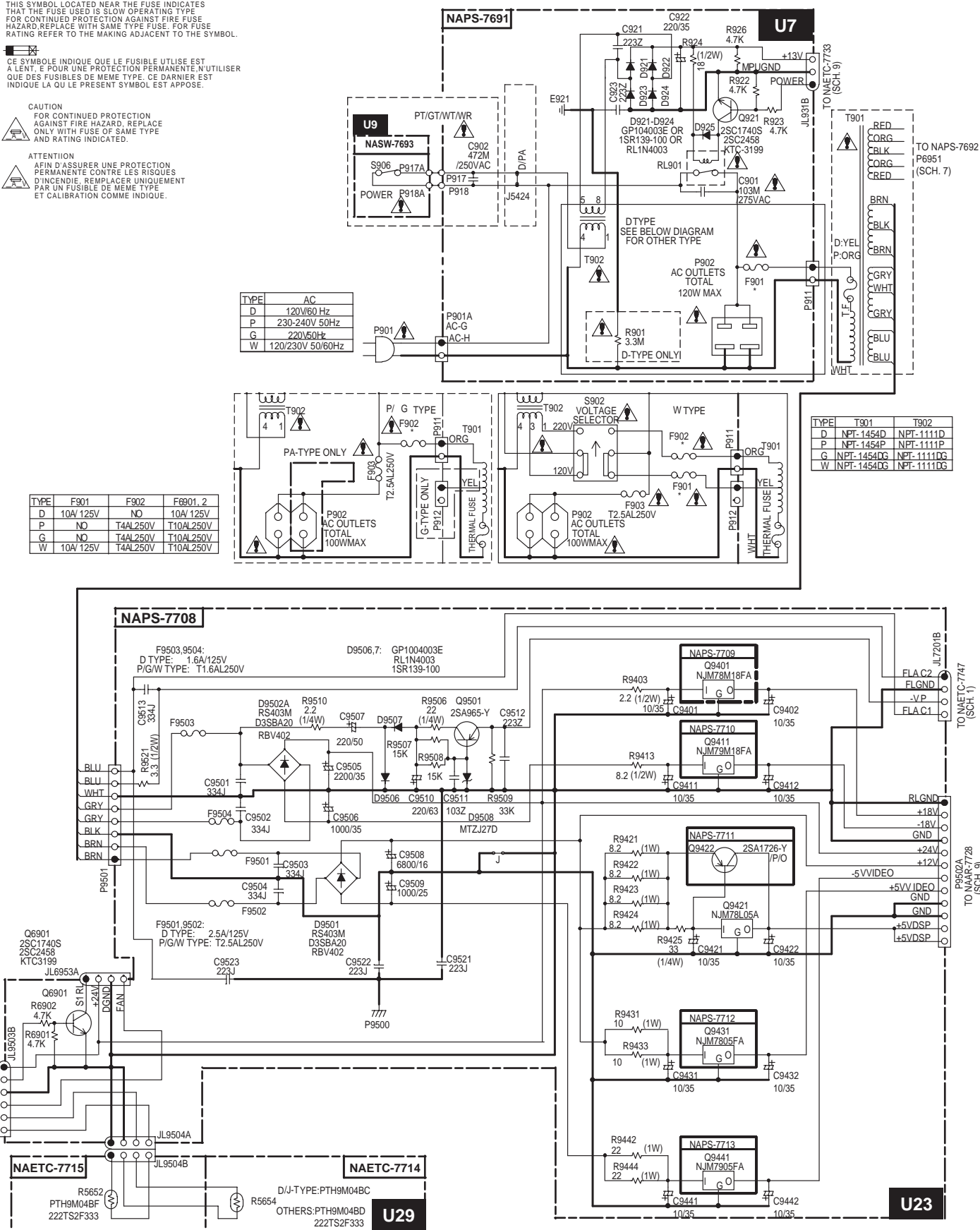
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.

ATTENTION
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MÊME TYPE ET CALIBRATION COMME INDICÉ.

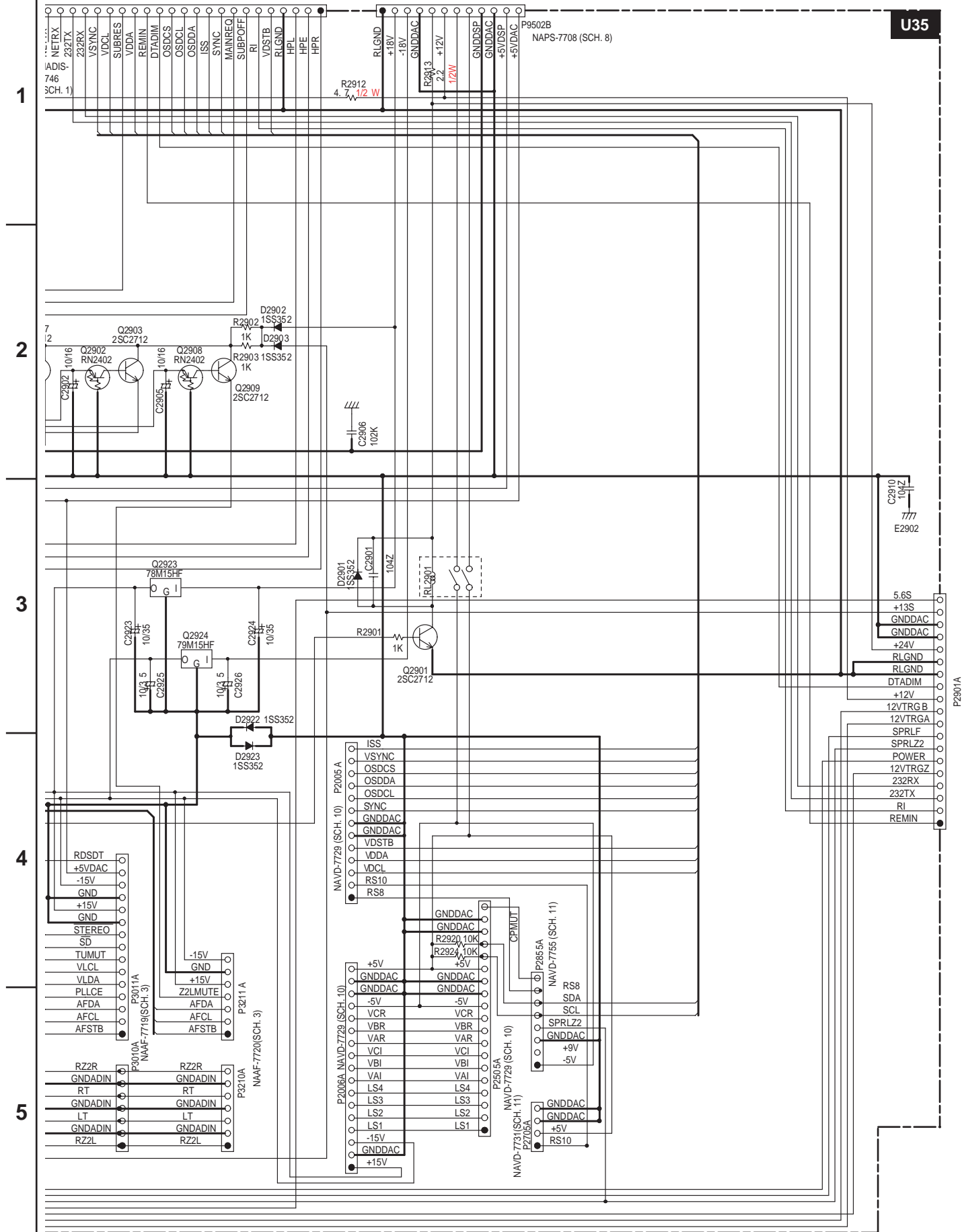
TYPE	AC
D	120V/60 Hz
P	230-240V 50Hz
G	220V/50Hz
W	120/230V 50/60Hz

TYPE	F901	F902	F901, 2
D	10A/125V	NO	10A/125V
P	NO	T4AL250V	T10AL250V
G	NO	T4AL250V	T10AL250V
W	10A/125V	T4AL250V	T10AL250V

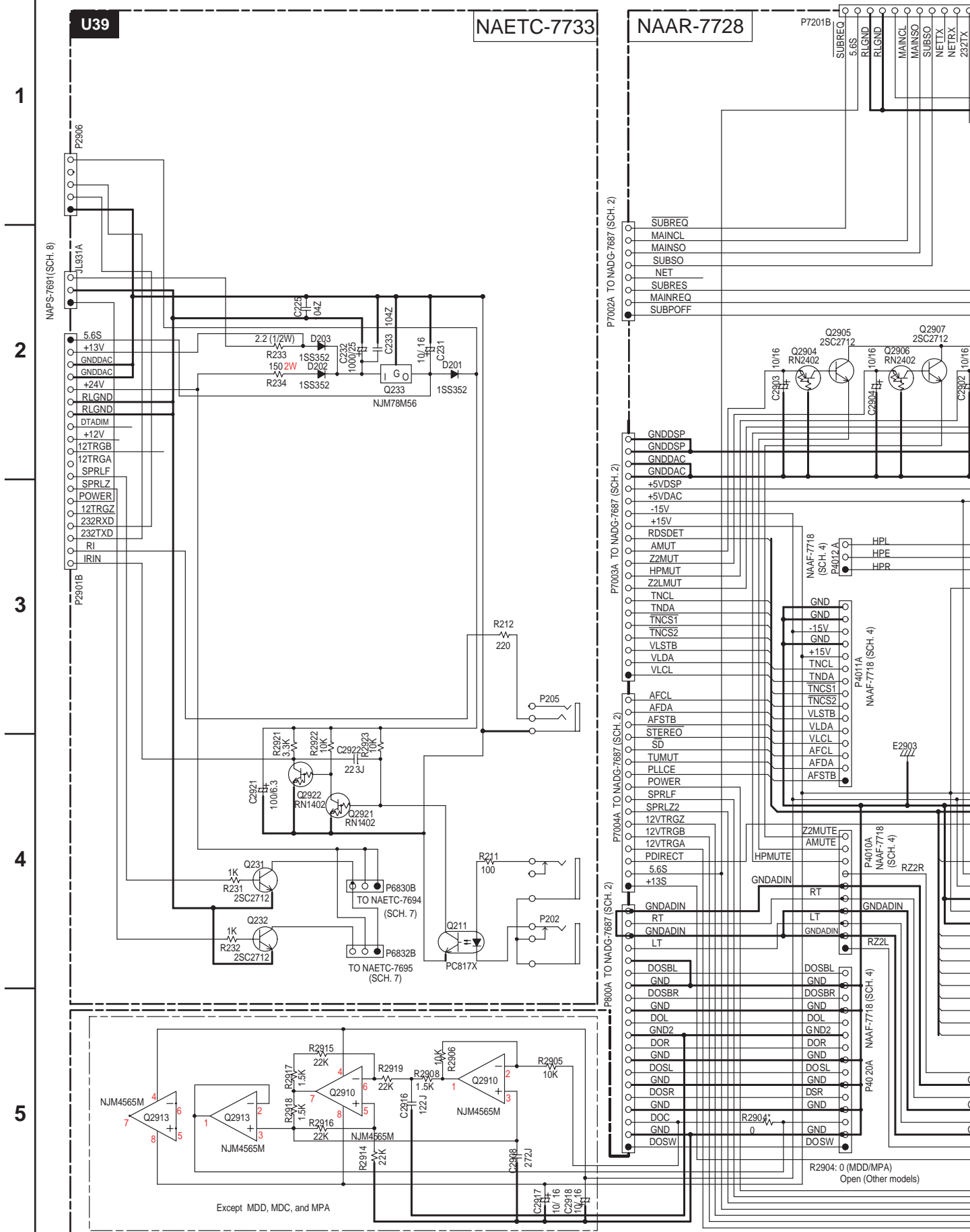
TYPE	T901	T902
D	NPT-1454D	NPT-1111D
P	NPT-1454P	NPT-1111P
G	NPT-1454G	NPT-1111G
W	NPT-1454G	NPT-1111G



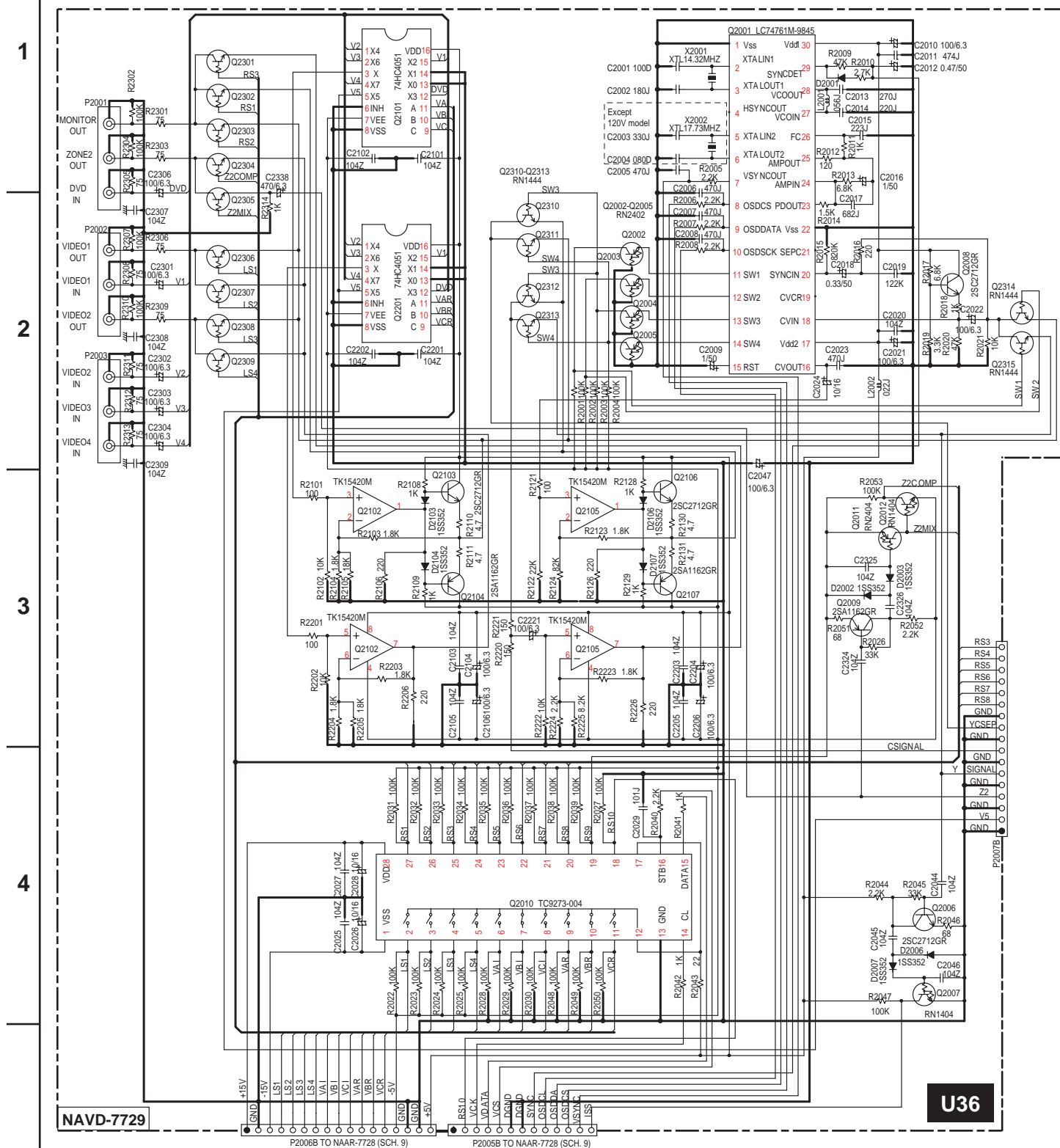
SCHEMATIC DIAGRAM 9-2 Mother Board Section



SCHEMATIC DIAGRAM 9-1 Mother Board Section



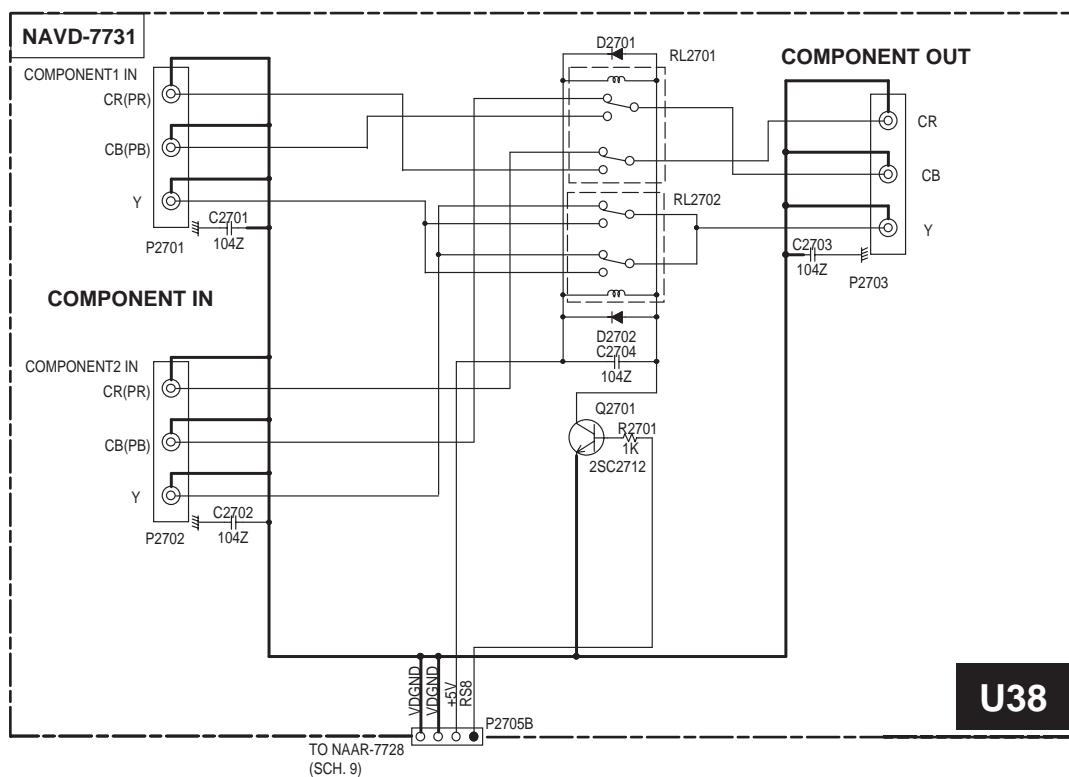
A	B
SCHEMATIC DIAGRAM 10-1 Video Section	



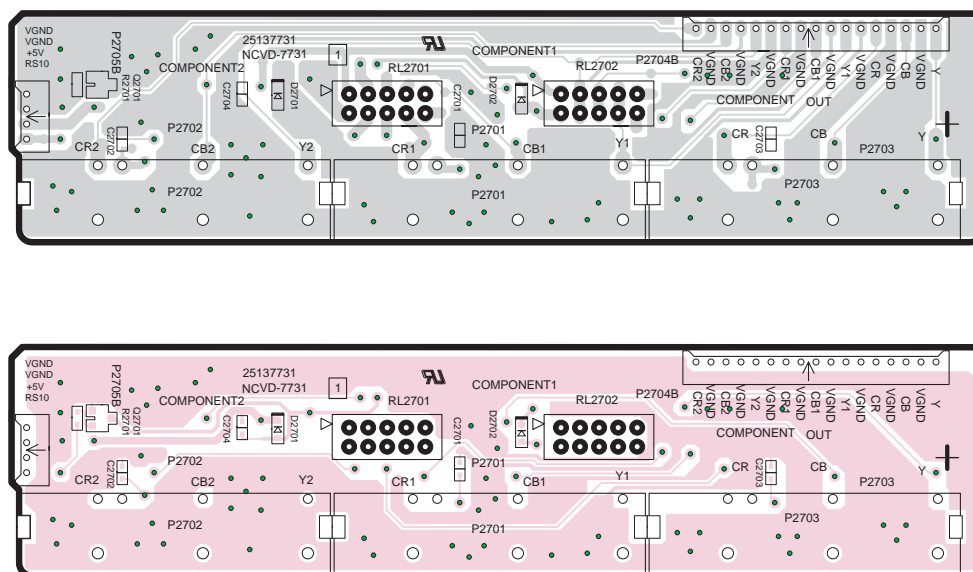


P2505B TO NAAR-7728 (SCH. 9)

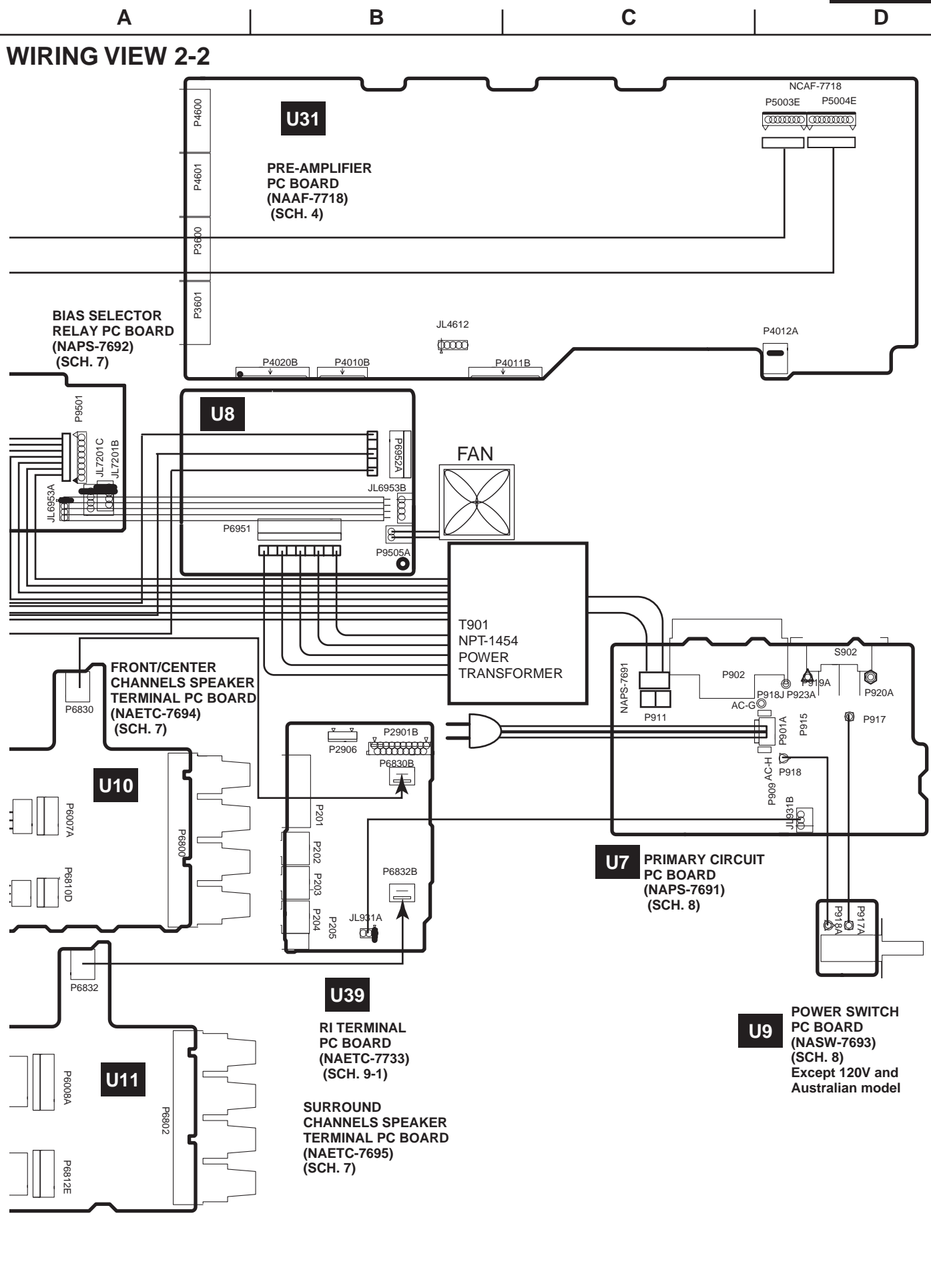
Component video section



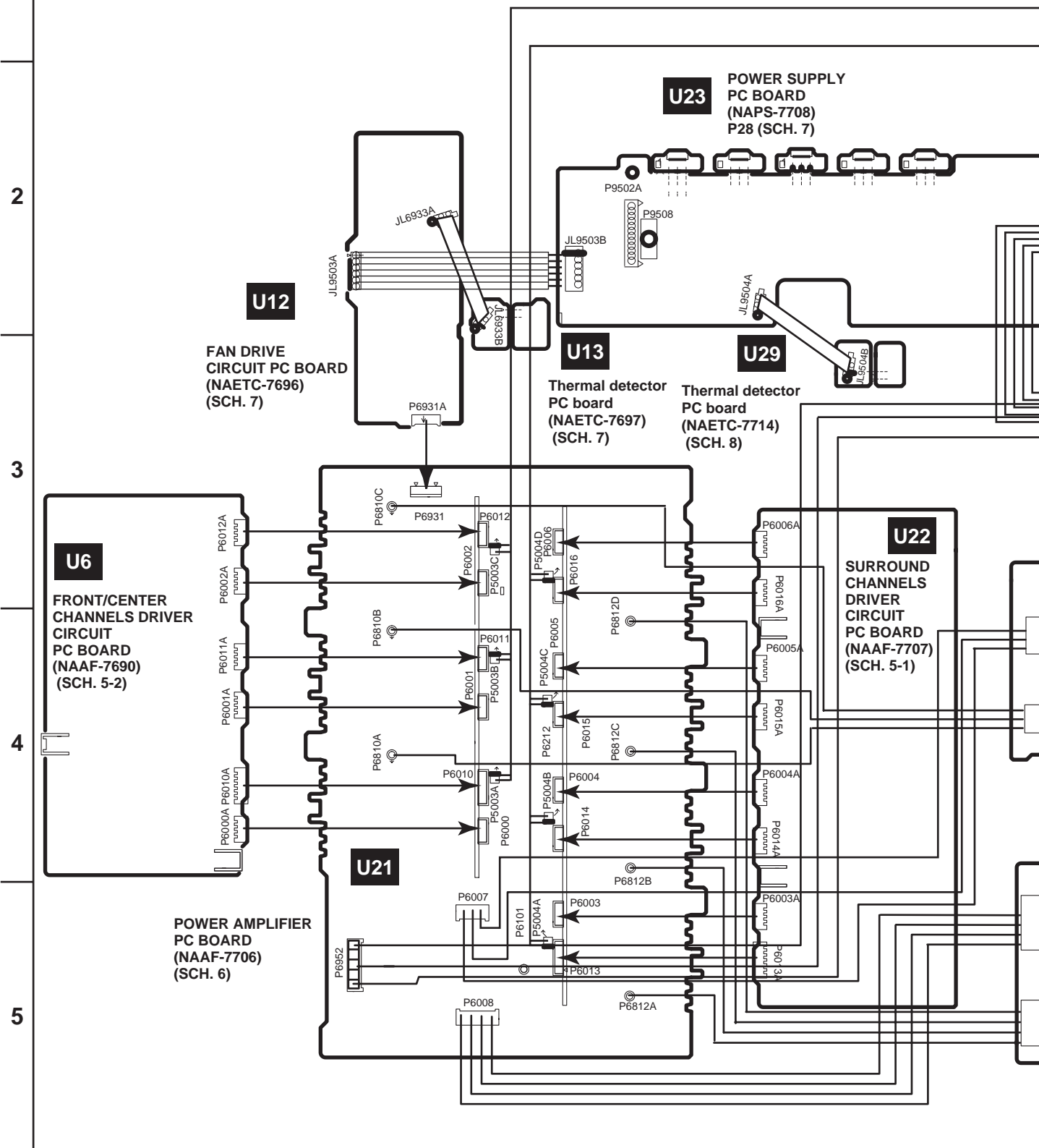
U38



COMPONENT VIDEO PC BOARD(NAVD-7731)

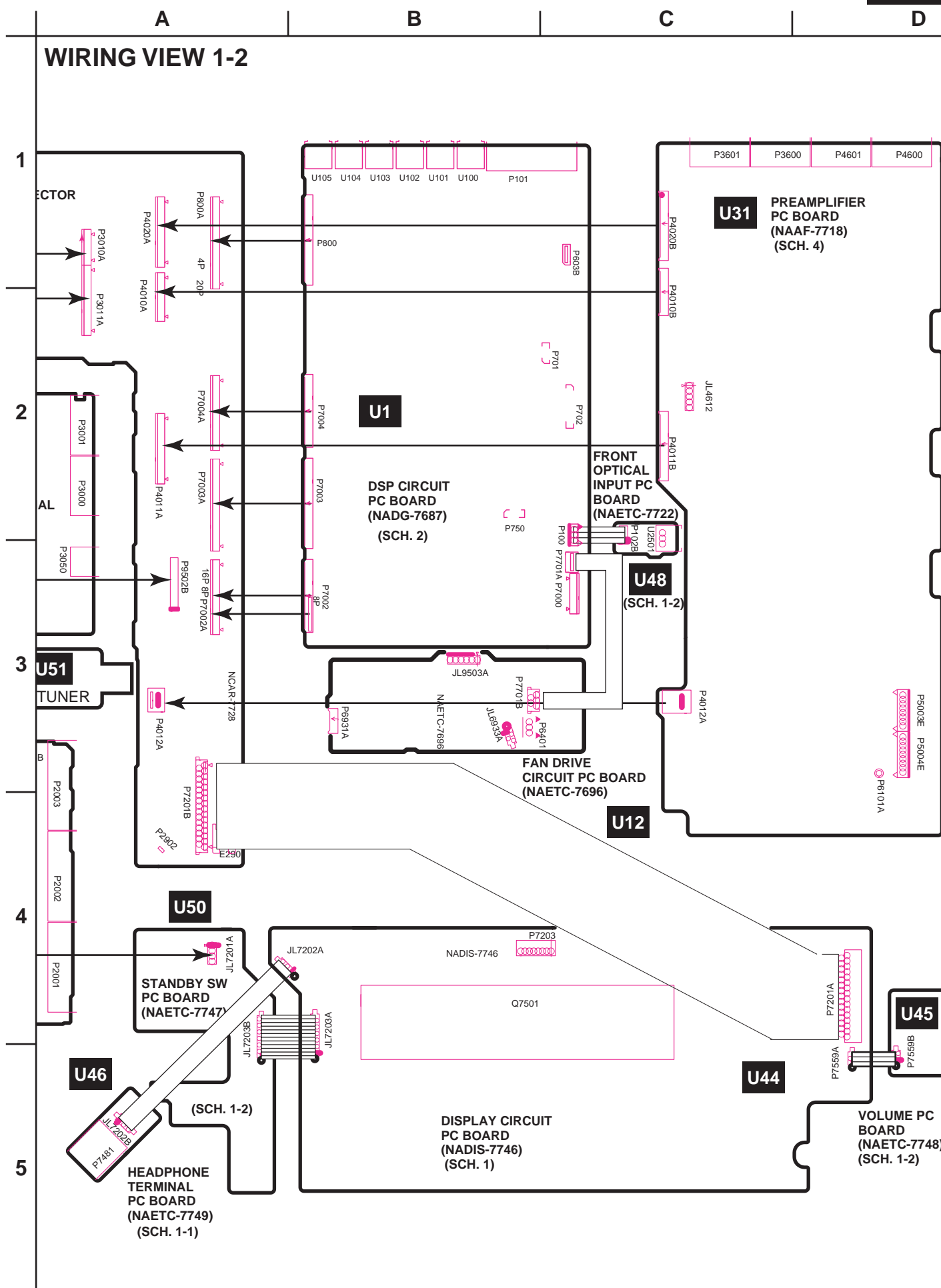


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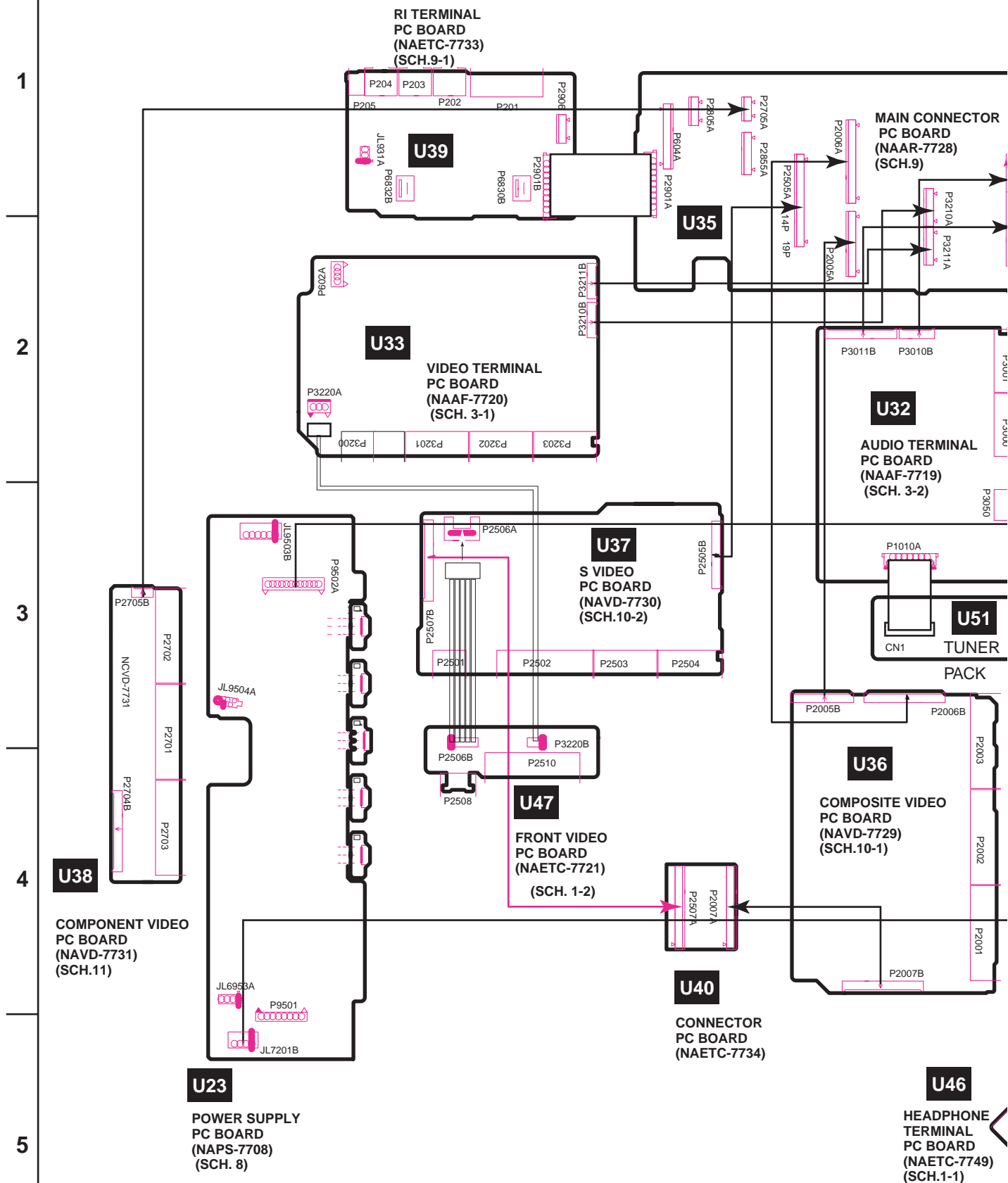
5

WIRING VIEW 1-2



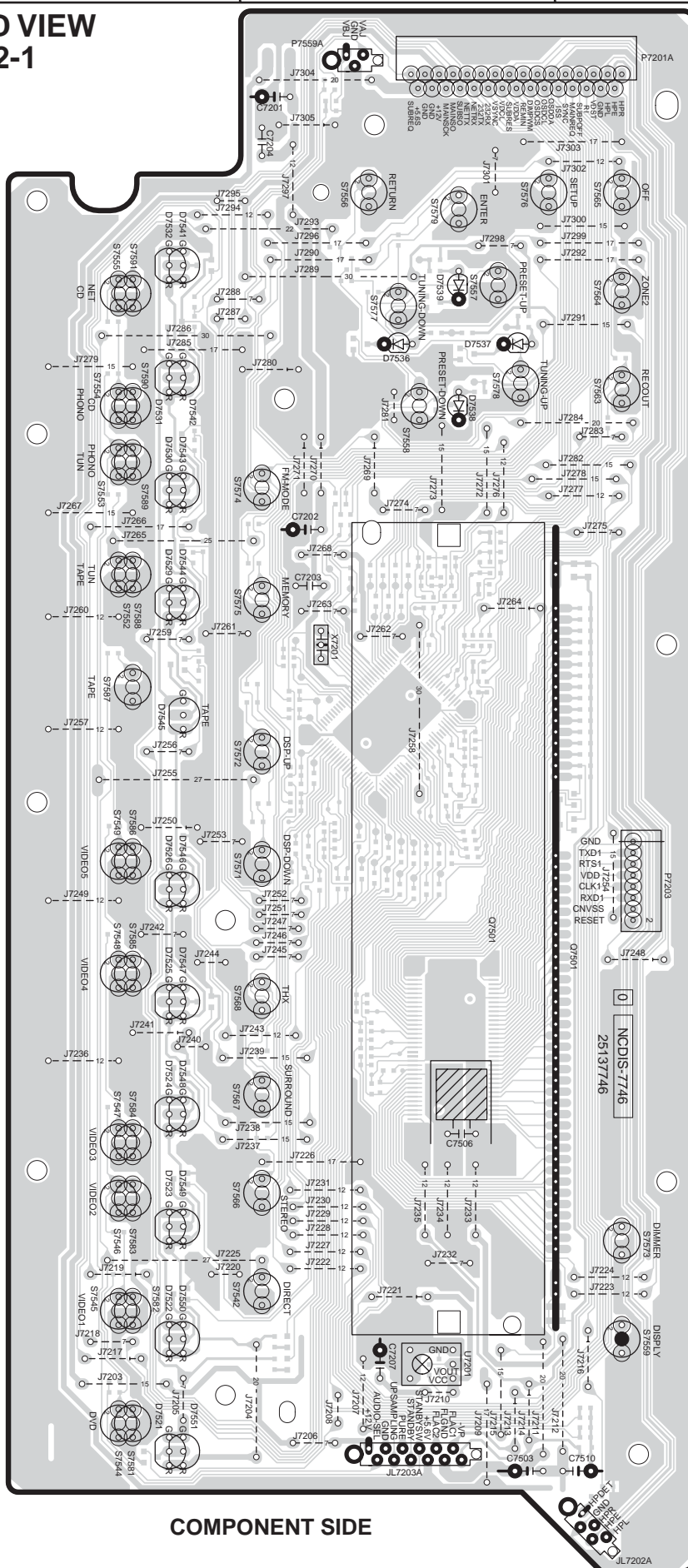
A

WIRING VIEW 1-1



FRONT OPTICAL INPUT PC BOARD(NAETC-7722)

DISPLAY CIRCUIT PC BOARD (NADIS-7746)



COMPONENT SIDE

A

B

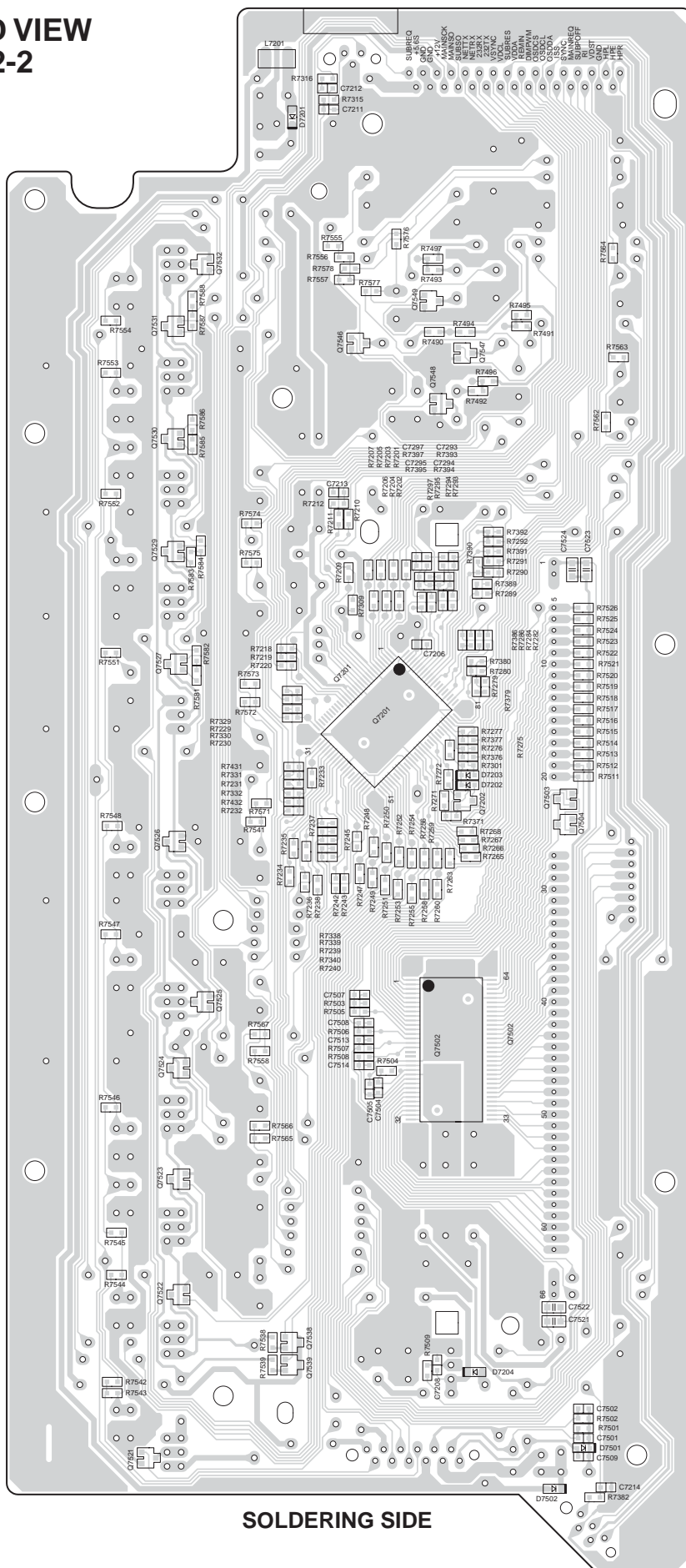
C

D

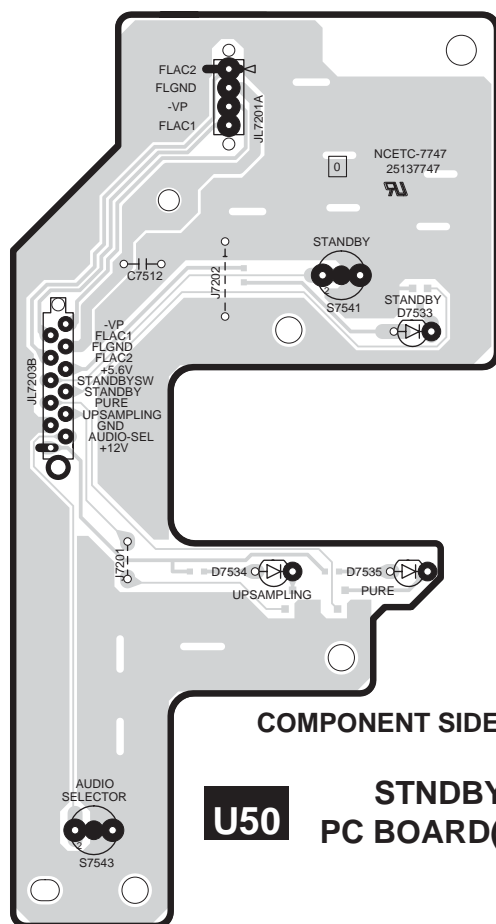
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 2-2

U44

DISPLAY CIRCUIT
PC BOARD
(NADIS-7746)

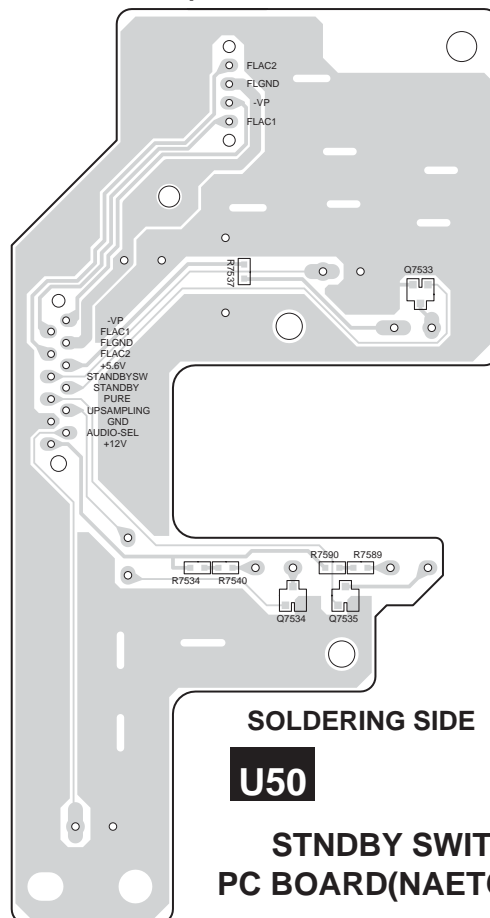
**SOLDERING SIDE**

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 2-3



COMPONENT SIDE

U50 STNDBY SWITCH
PC BOARD(NAETC-7747)



SOLDERING SIDE

U50 STNDBY SWITCH
PC BOARD(NAETC-7747)

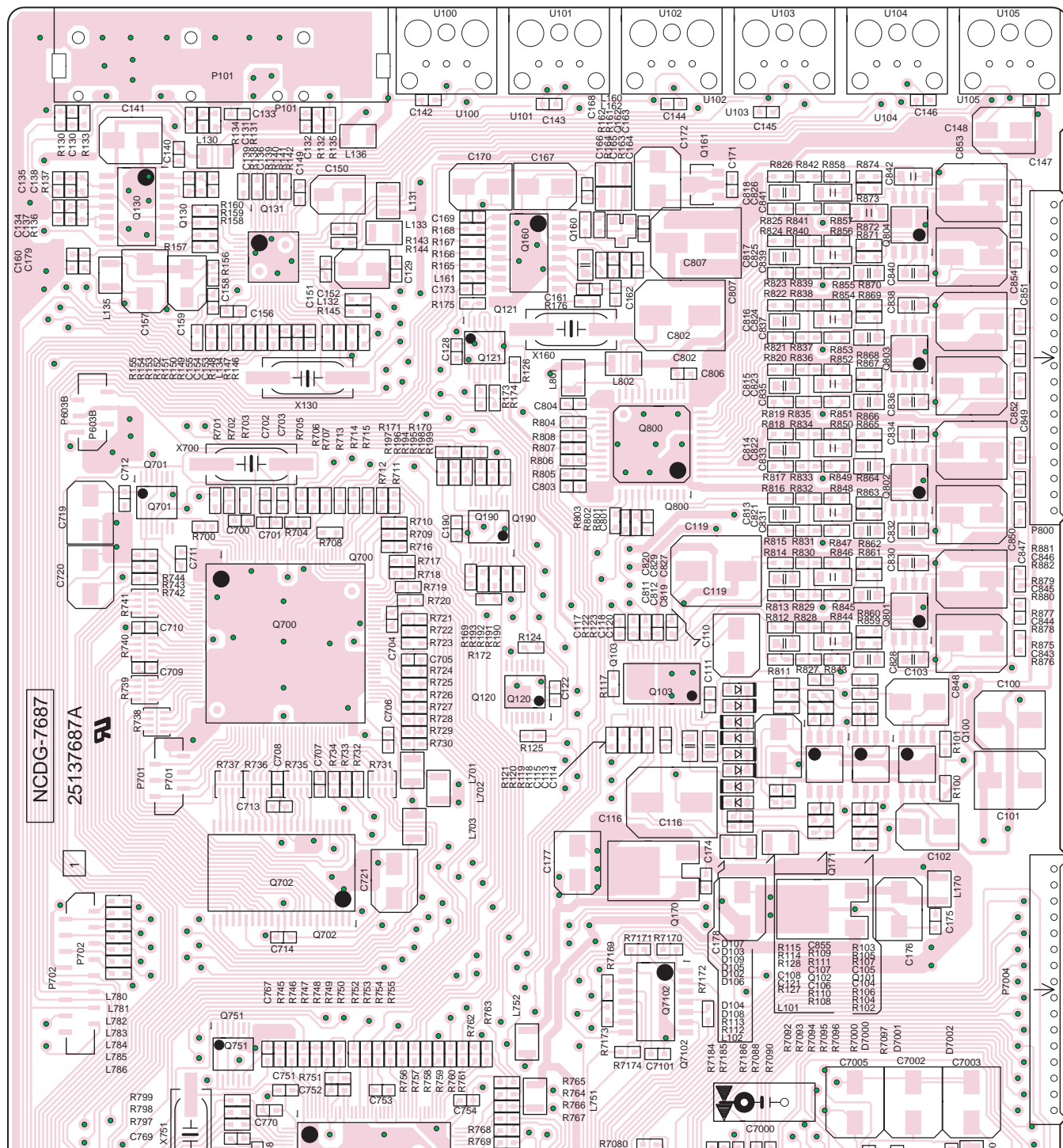


**DSP CIRCUIT
PC BOARD
(NADG-7687)
CHIP PARTS
SIDE**

PRINTED CIRCUIT BOARD VIEW 3-2

U1

DSP CIRCUIT
PC BOARD
(NADG-7687)
CHIP PARTS
SIDE



5

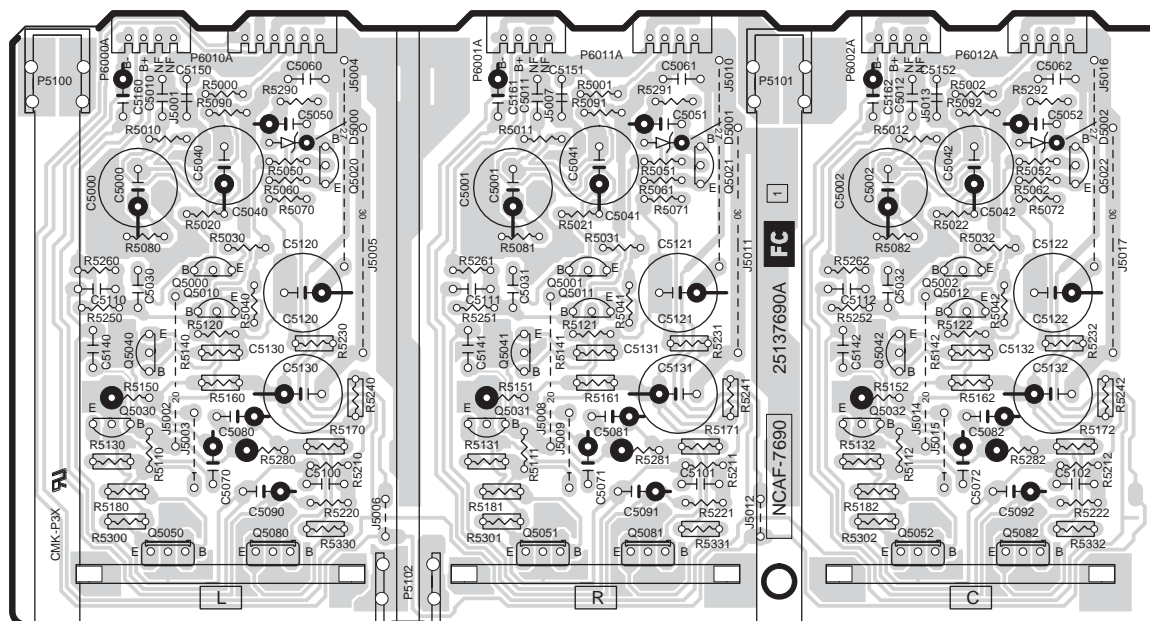


**DSP CIRCUIT
PC BOARD
(NADG-7687)
COMPONENT PARTS
SIDE**

VIDEO TERMINAL PC BOARD(NAAF-7720)

AUDIO TERMINAL PC BOARD(NAAF-7719)

U6



FRONT/CENTER CHANNELS DRIVER AMPLIFIER PC BOARD(NAAF-7690)

A

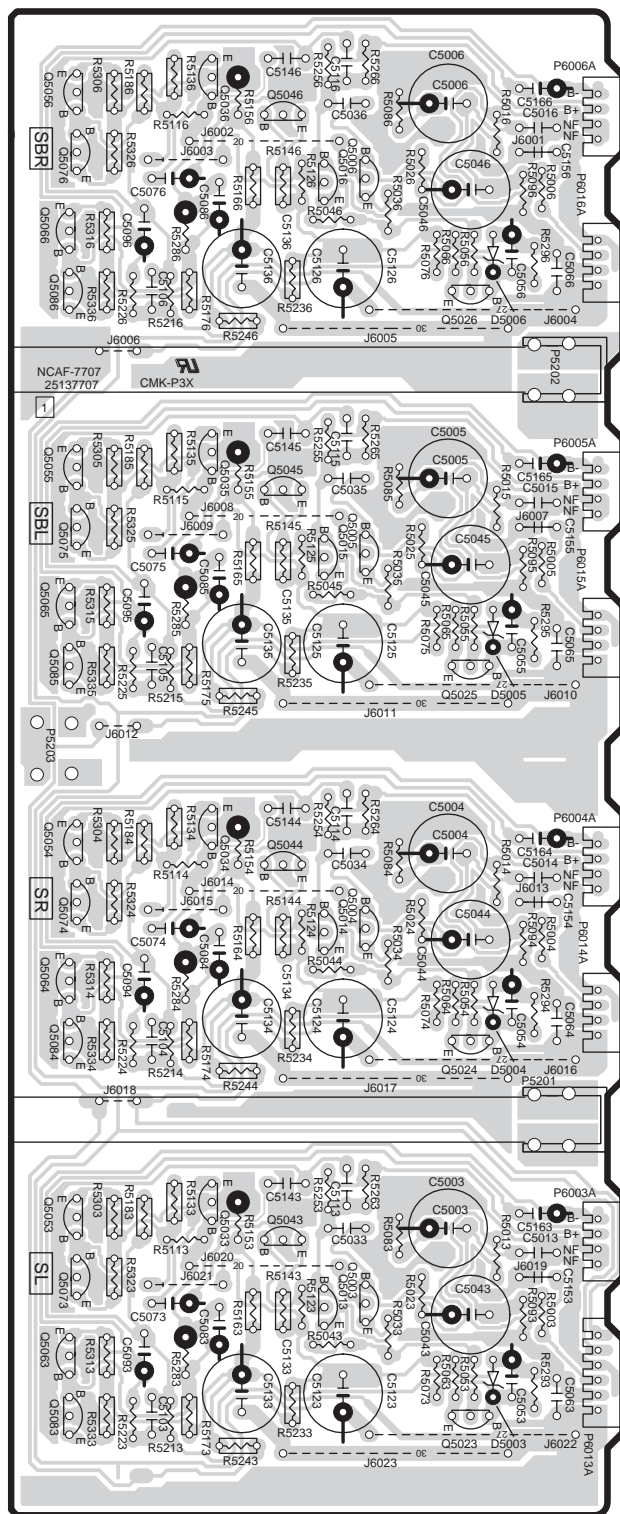
B

C

D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 6-1

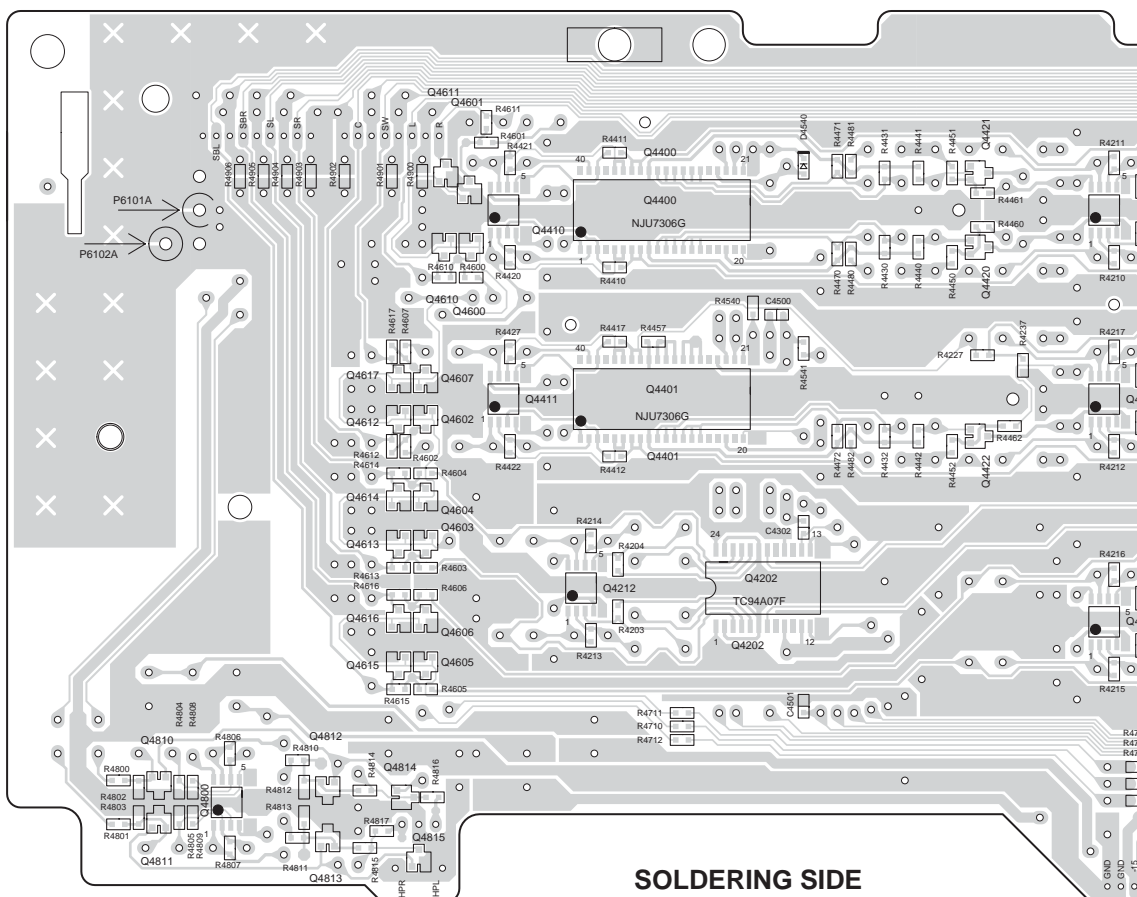
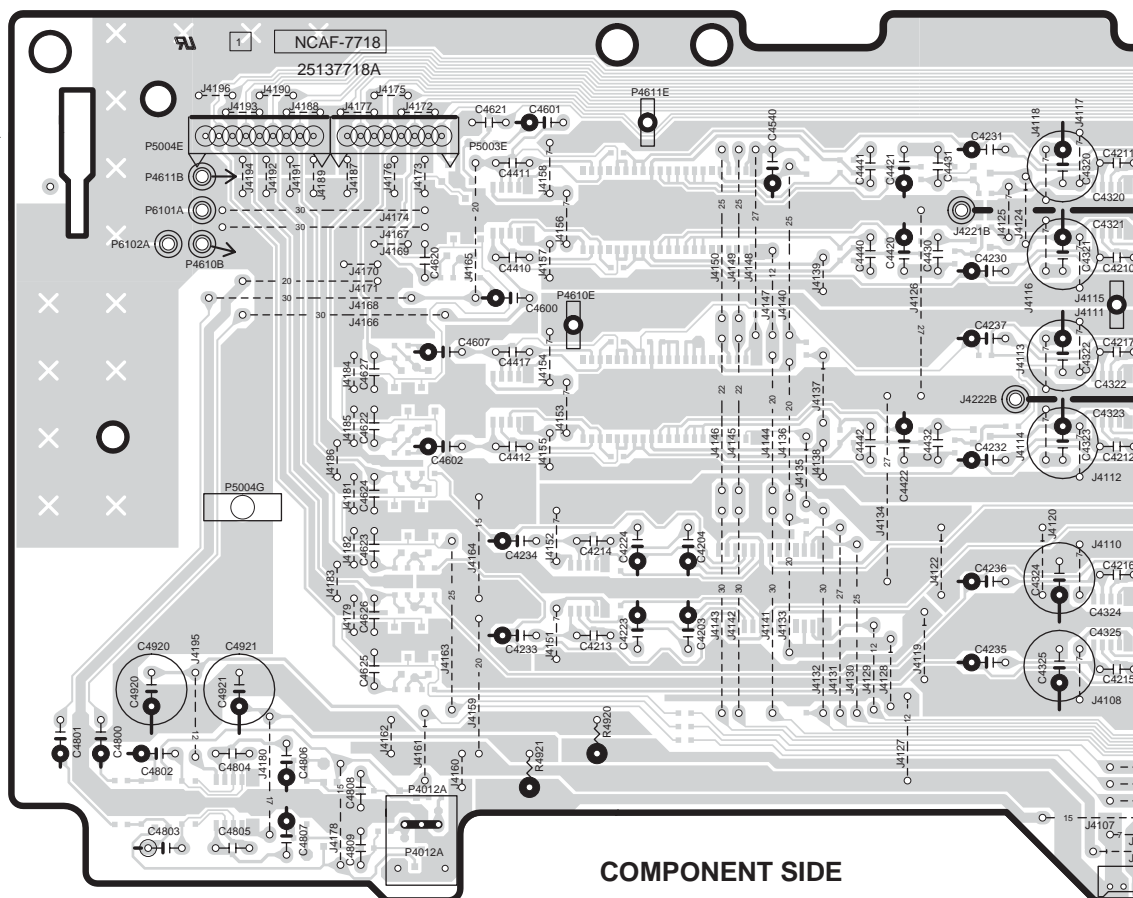
U22



SURROUND CHANNEL DRIVER AMPLIFIER PC BOARD(NAAF-7707)

A B C D
PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 5-1

U31

1 PREAMPLIFIER
PC BOARD
(NAAF-7718)

A

B

C

D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 5-2

U31

PREAMPLIFIER
PC BOARD
(NAAF-7718)COMPONENT
SIDESOLDERING
SIDE

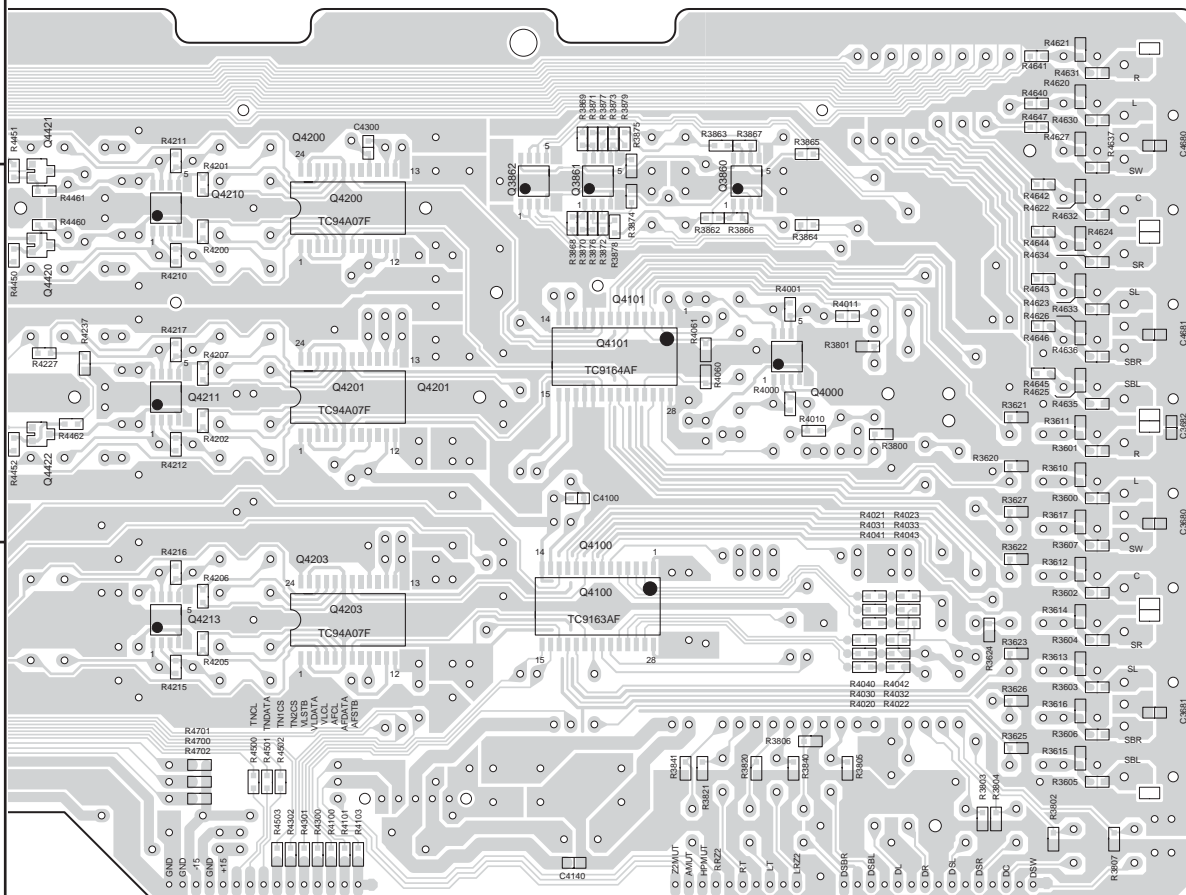
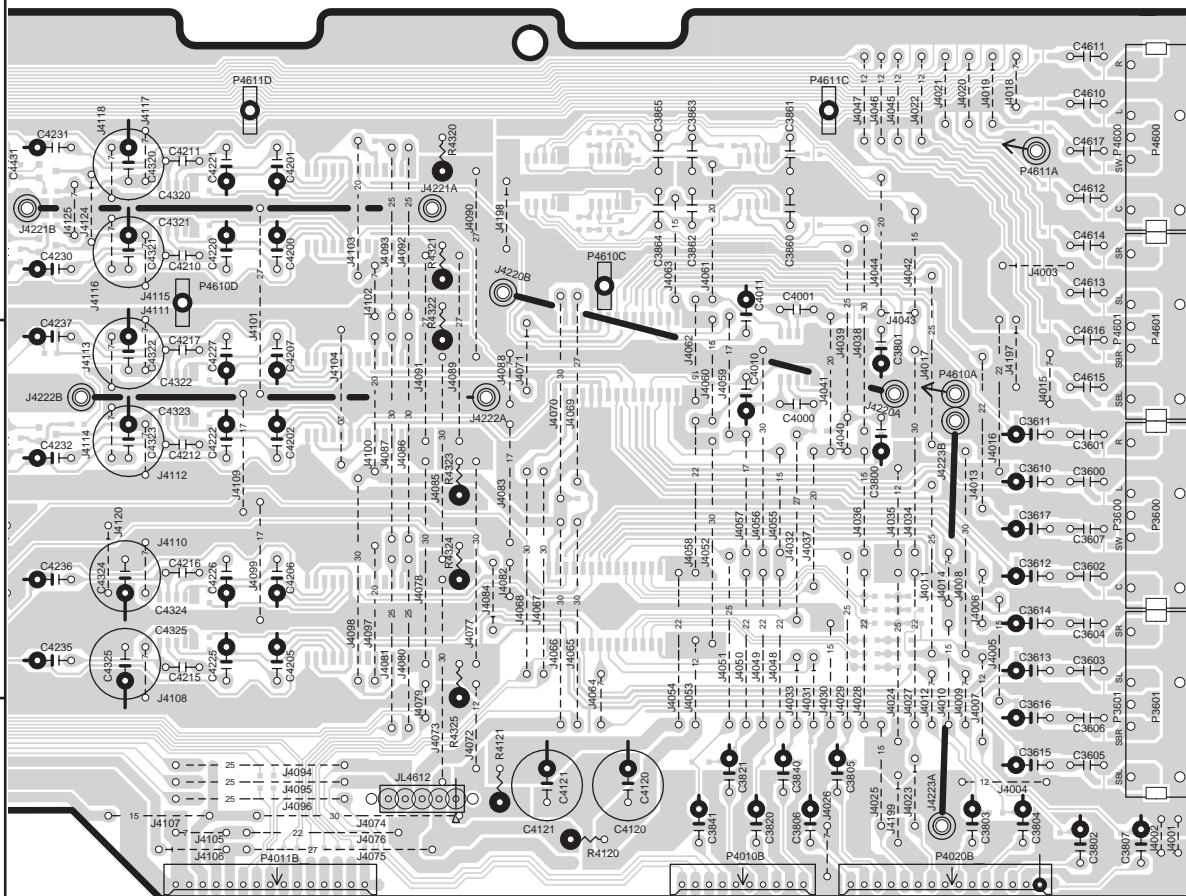
1

2

3

4

5

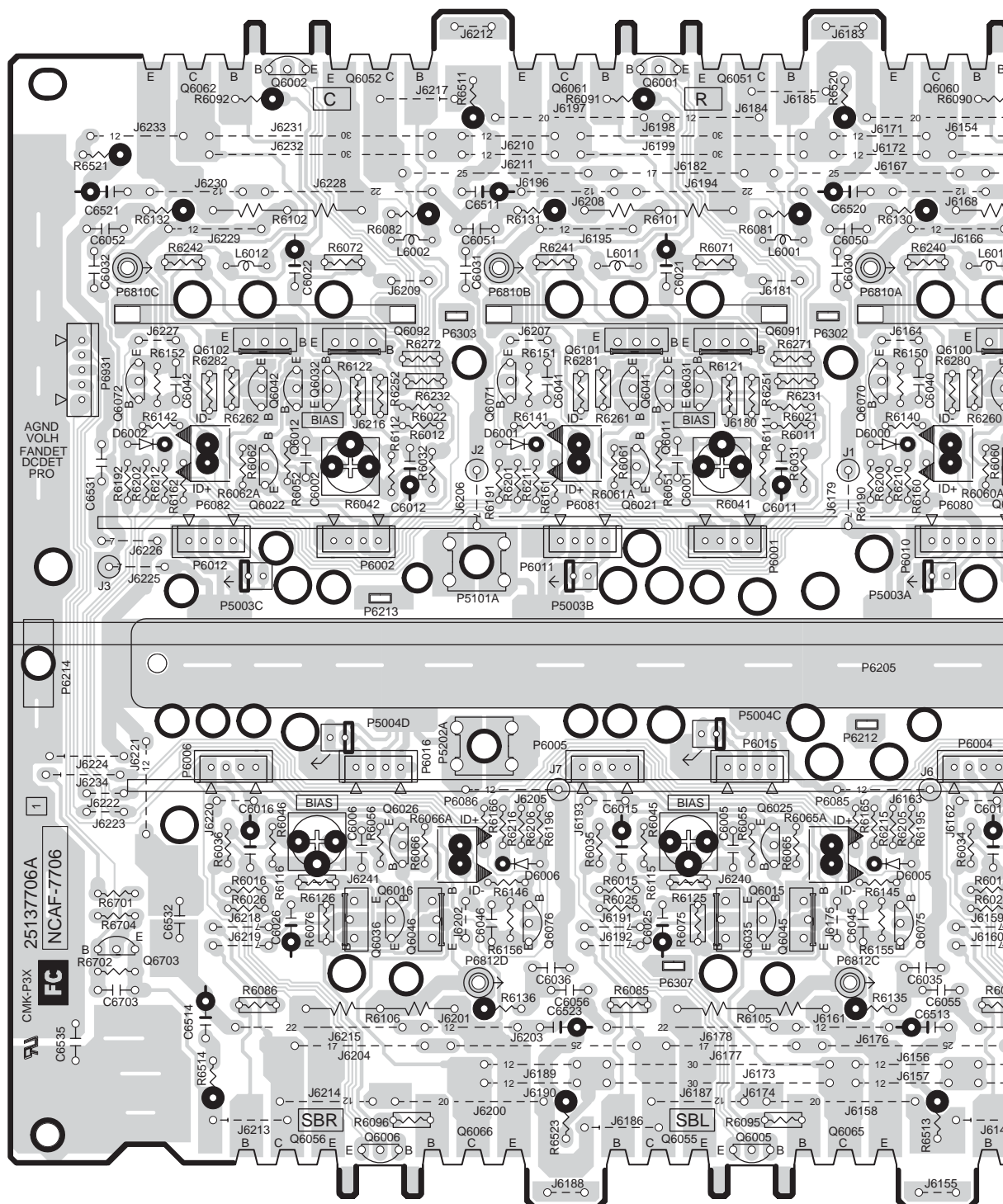


U21



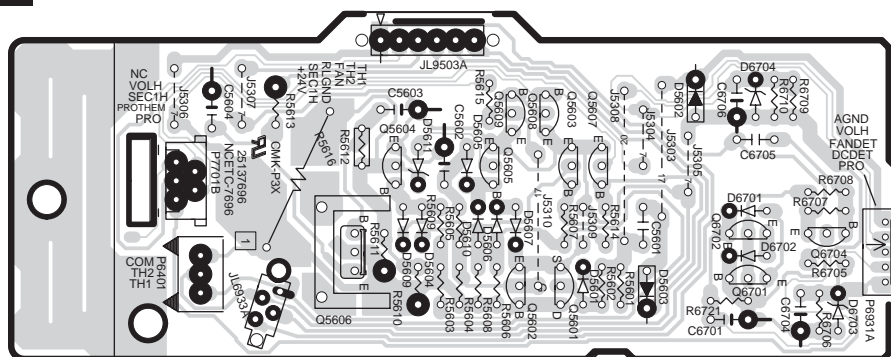
POWER AMPLIFIER PC BOARD(NAAF-7706)

U21

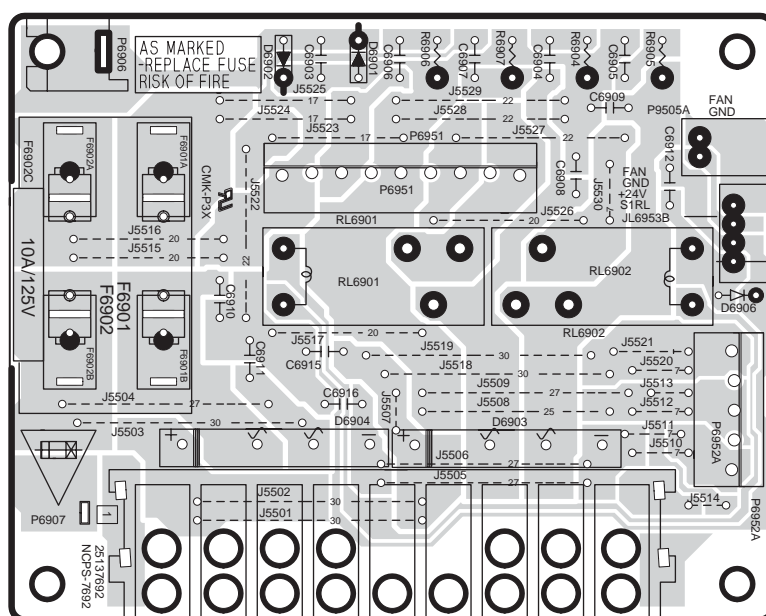


POWER AMPLIFIER PC BOARD(NAAF-7706)

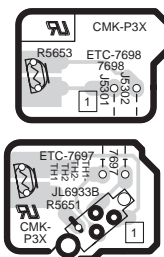
U12



FAN DRIVE CIRCUIT PC BOARD(NAETC-7696)



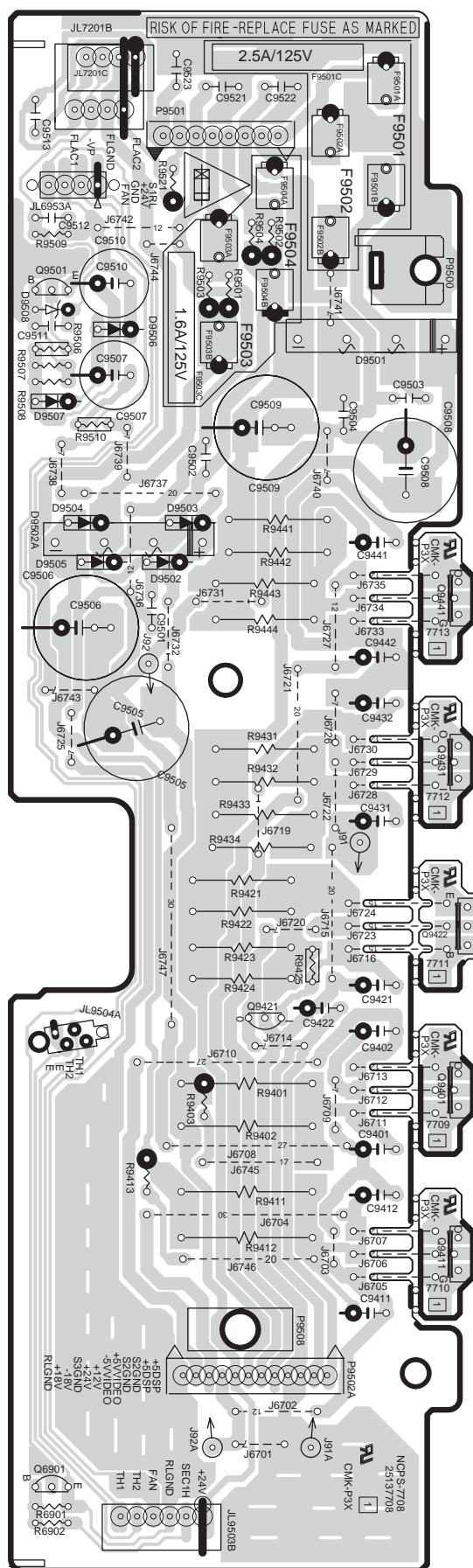
BIAS SELECTOR RELAY PC BOARD(NAPS-7692)



THERMAL DETECTOR PC BOARD(NAETC-7697)

5

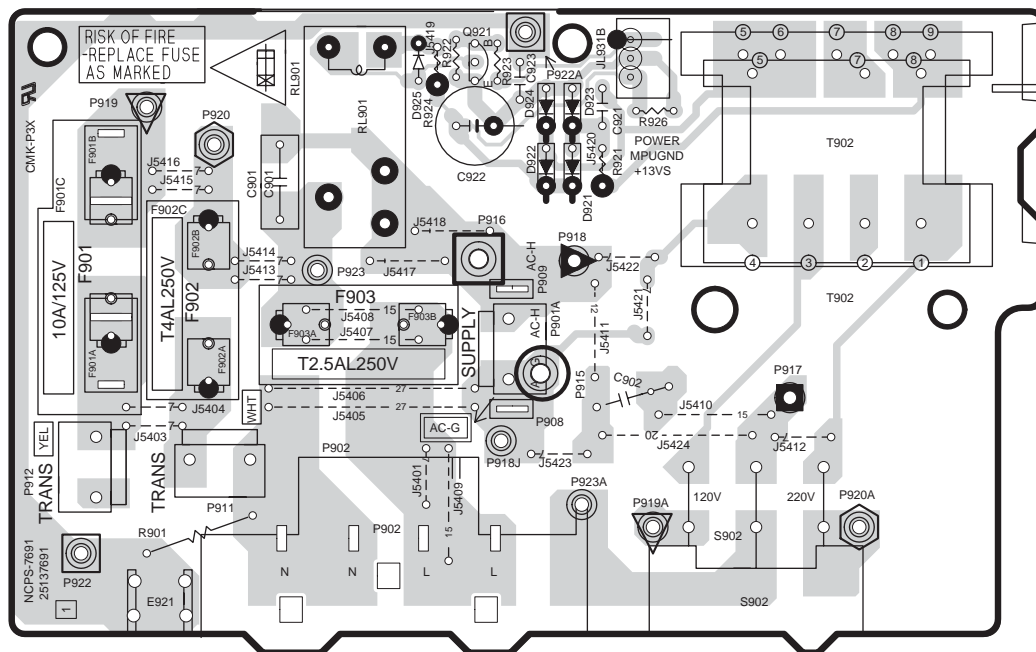
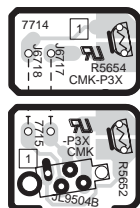
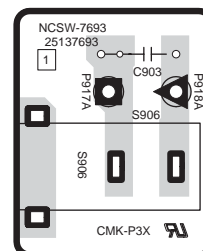
U23



POWER SUPPLY PC BOARD(NAPS-7708)

A B C D

PRINTED CIRCUIT BOARD VIEW FROM SOLDERING SIDE 9-2

U7**PRIMARY CIRCUIT PC BOARD(NAPS-7691)****U29****THERMAL DETECTOR
PC BOARD(NAETC-7714)****U9****POWER SWITCH PC BOARD(NASW-7693)
Except 120V and Australian models**

1



COMPONENT PARTS SIDE

3

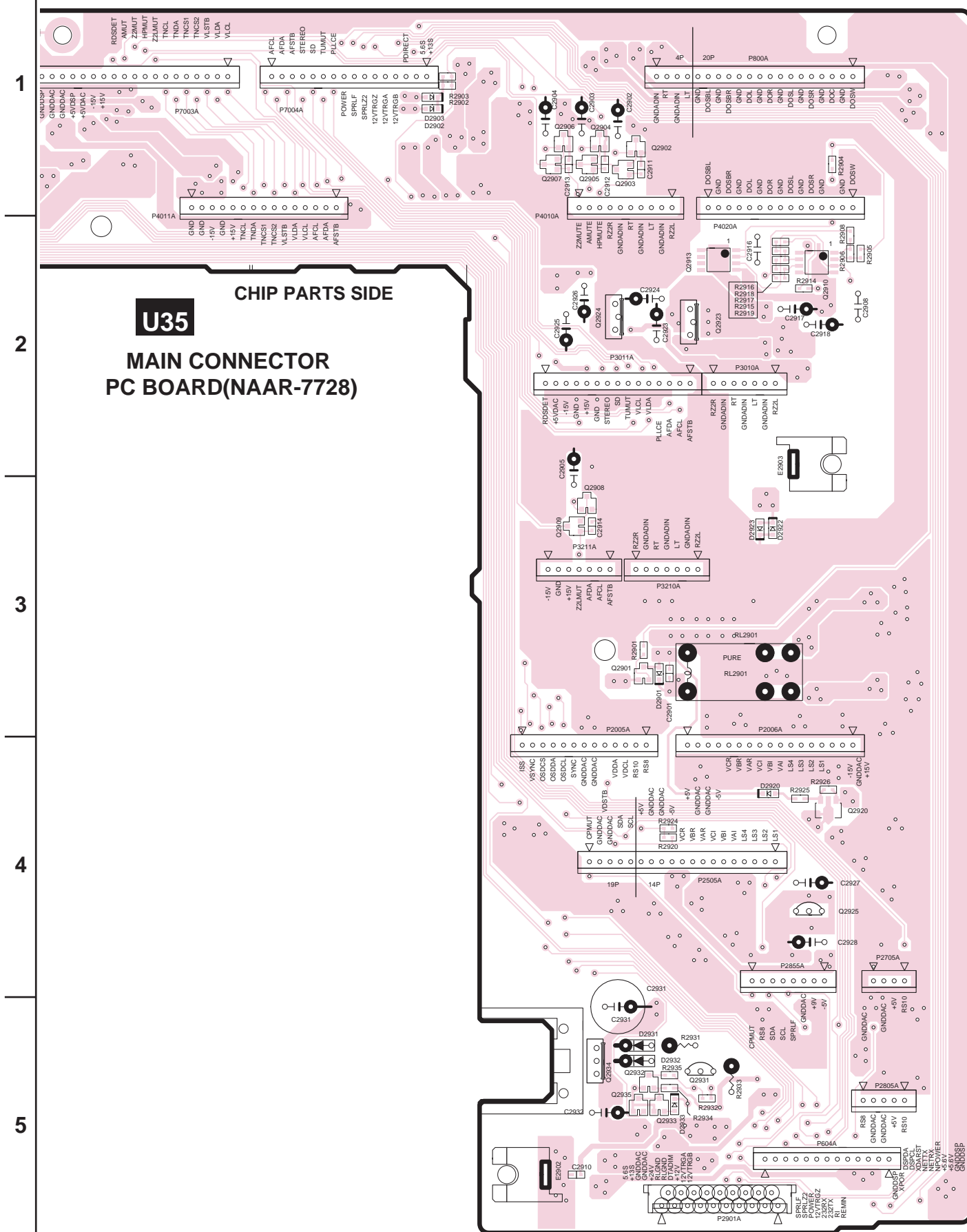


U39

5

D

PRINTED CIRCUIT BOARD VIEW 10-3



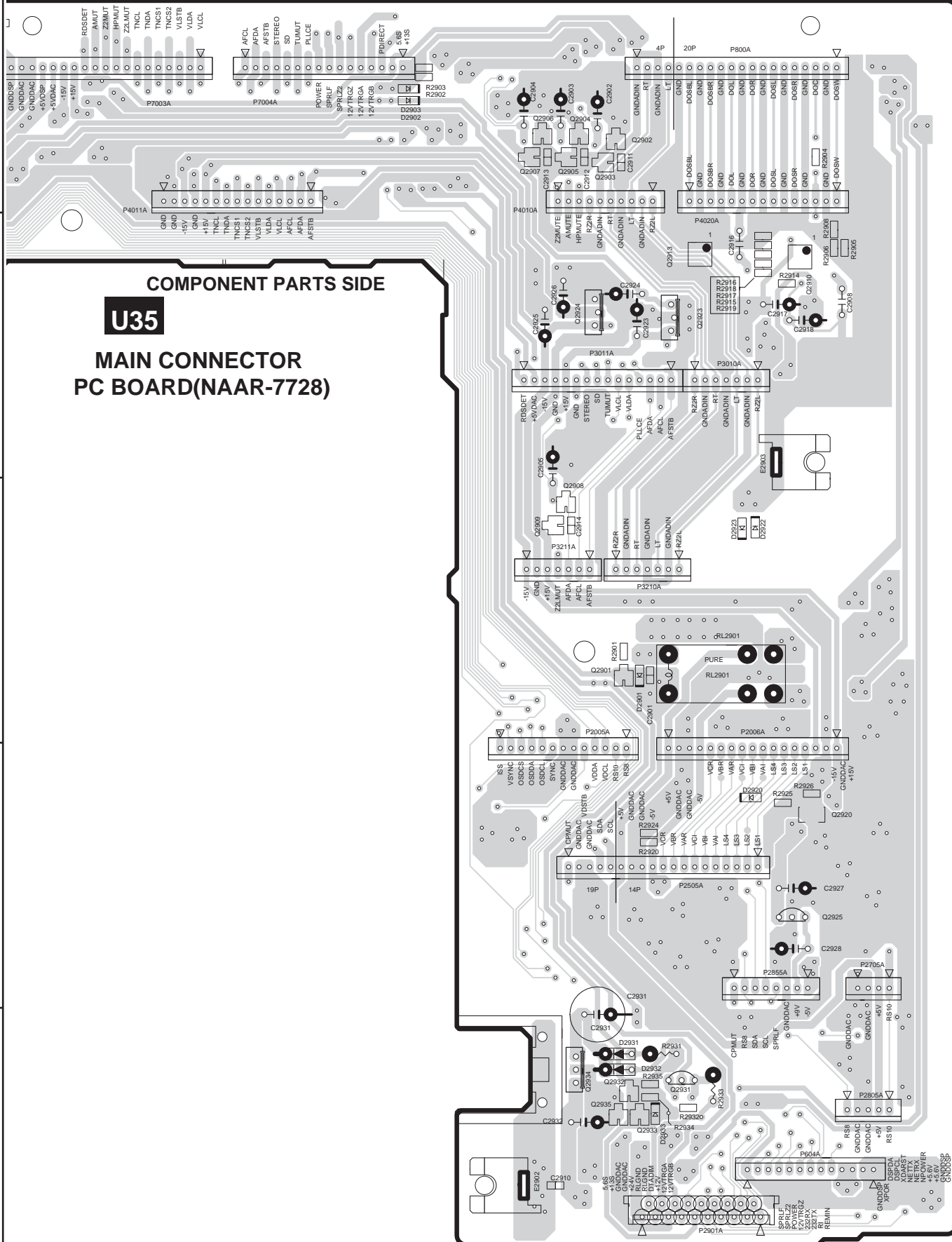
D

PRINTED CIRCUIT BOARD VIEW 10-4

COMPONENT PARTS SIDE

U35

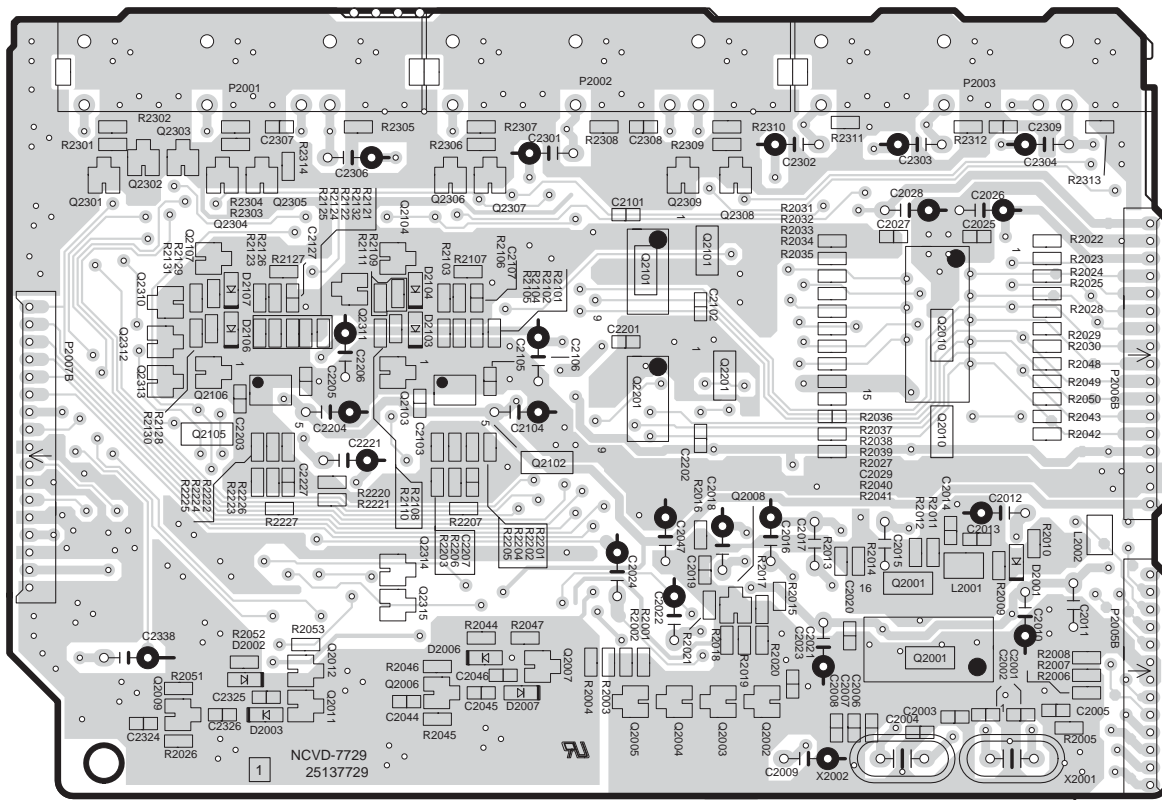
MAIN CONNECTOR PC BOARD(NAAR-7728)



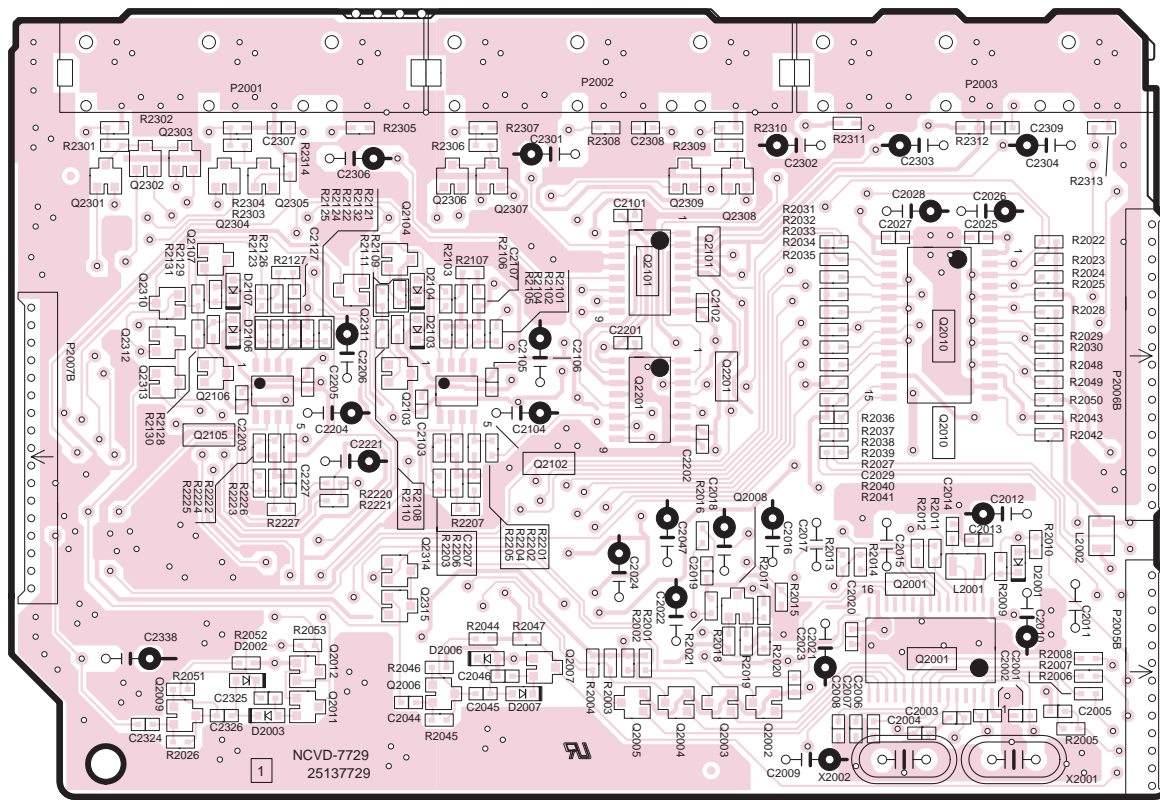
A B C D

PRINTED CIRCUIT BOARD VIEW 11-1

U36



COMPONENT PARTS SIDE

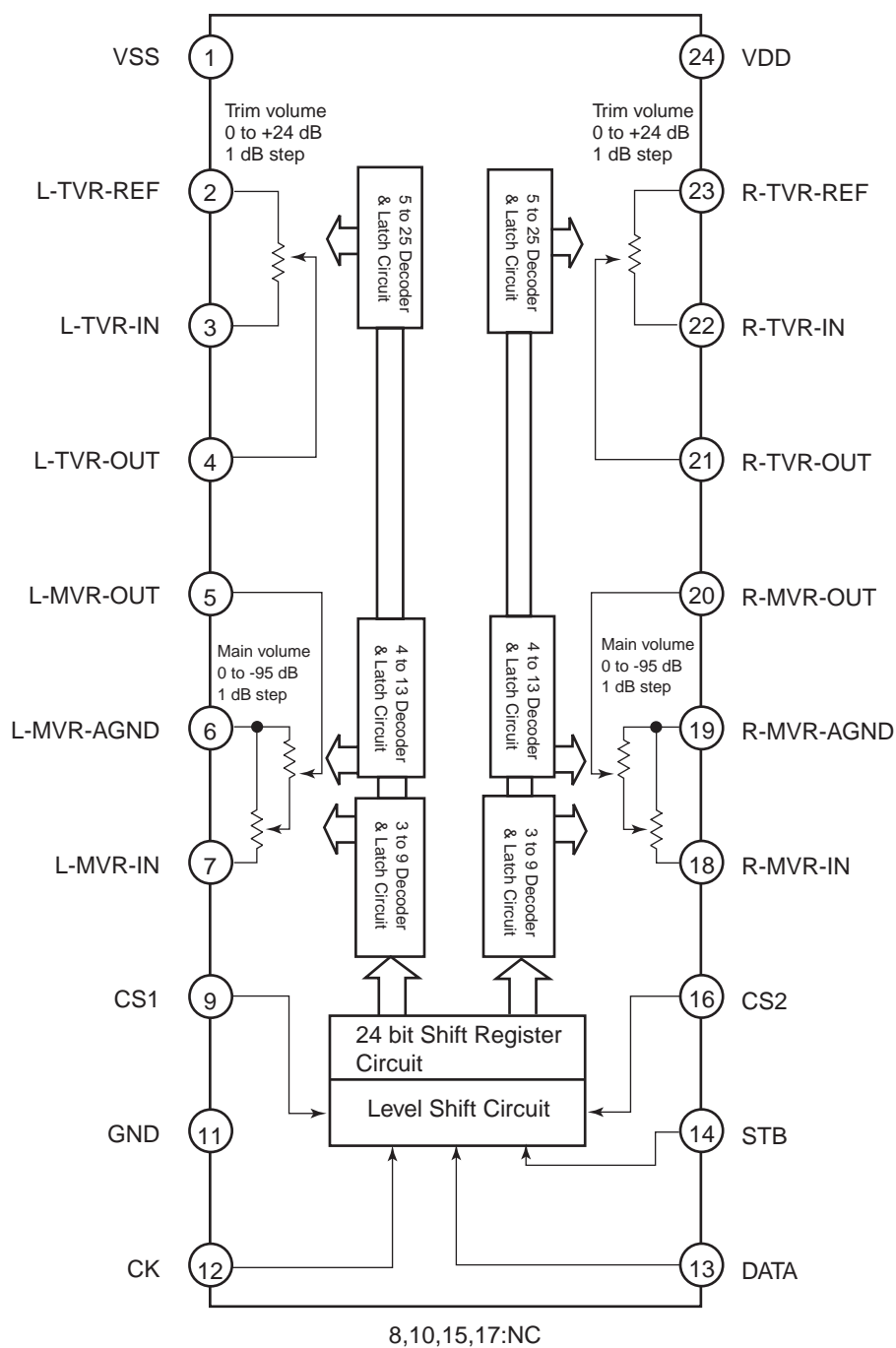


CHIP PARTS SIDE

COMPOSITE VIDEO PC BOARD(NAVD-7729)

IC BLOCK DIAGRAMS AND DESCRIPTIONS

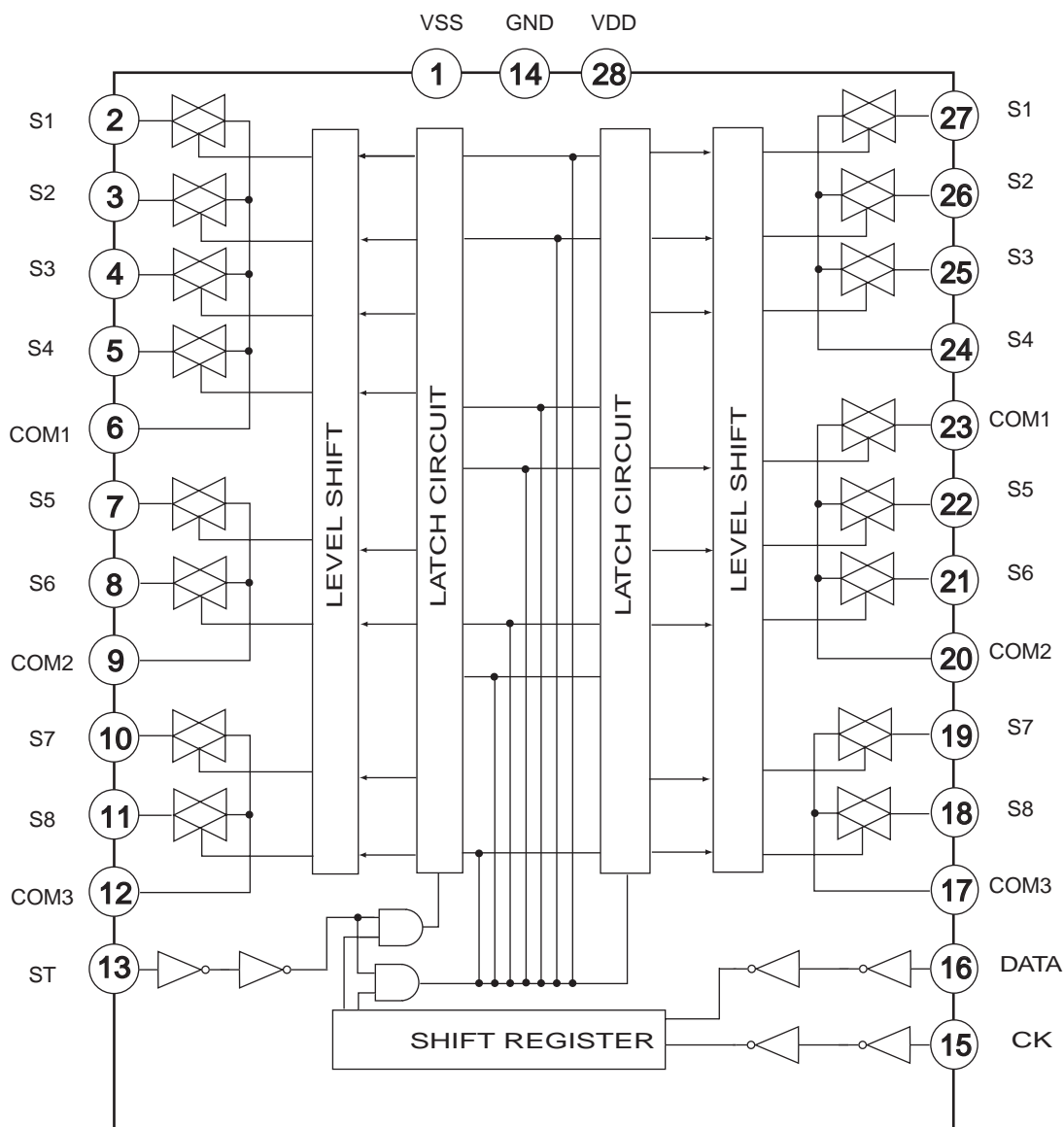
TC94A07F(Electric Volume)



No.	Symbol	Terminal
1	VSS	Negative power source
24	VDD	Positive power source
11	GND	Digital ground
2	L-TVR-REF	Trim volume analog
23	R-TVR-REF	reference terminals
3	L-TVR-IN	Trim volume input
22	R-TVR-IN	terminals
4	L-TVR-OUT	Trim volume output
21	R-TVR-OUT	terminals
5	L-MVR-OUT	Main volume output
20	R-MVR-OUT	terminals
6	L-MVR-AGND	Main volume analog
19	R-MVR-AGND	reference terminals
7	L-MVR-IN	Main volume input
18	R-MVR-IN	terminals
8	CS1	Chip select code switch
16	CS2	terminals
12	CK	Clock input
13	DATA	Data input
14	STB	Strobe input
8		
10	NC	No connection
15		
17		

IC BLOCK DIAGRAM AND DESCRIPTIONS

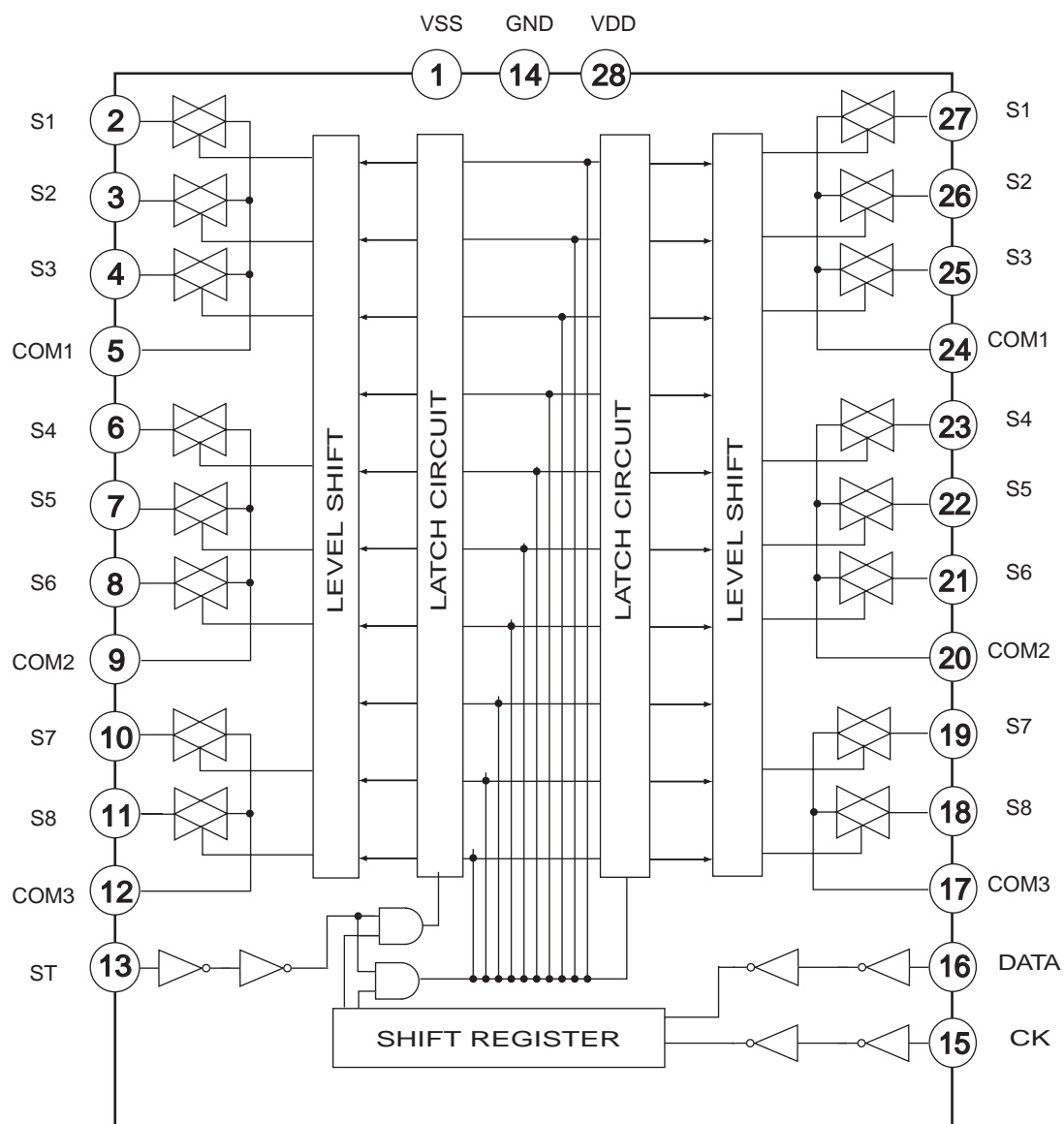
TC9164AF(Function switch)



Pin No.	Symbol	Function
1	Vss	Negative power supply
14	GND	Ground
28	VDD	Positive power supply
2,3,4,6,7,8,10,11	S1~S8	Input/output terminals
27,26,25,23,22,21,19,18	S1~S8	Input/output terminals
5,9,12	COM1 ~ COMB	Common terminals
24,20,17	COM1 ~ COMB	Common terminals
13	ST	Strobe input terminal for data reading
15	C K	Clock input terminal for data transfer
16	D A T A	Data input terminal for switch

IC BLOCK DIAGRAM AND DESCRIPTIONS

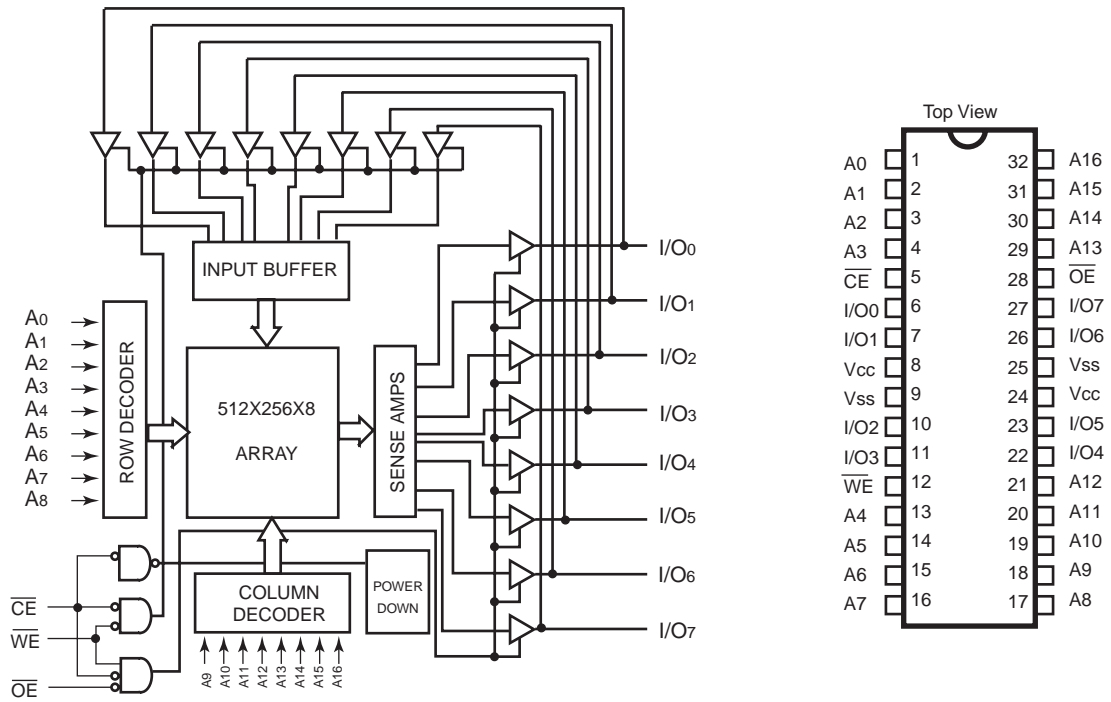
TC9163AF(Function switch)



Pin No.	Symbol	Function
1	Vss	Negative power supply
14	GND	Ground
28	VDD	Positive power supply
2,3,4,6,7,8,10,11	S1~S8	Input/output terminals
27,26,25,23,22,21,19,18	S1~S8	Input/output terminals
5,9,12	COM1 ~ COM3	Common terminals
24,20,17	COM1 ~ COM3	Common terminals
13	ST	Strobe input terminal for data reading
15	C K	Clock input terminal for data transfer
16	DATA	Data input terminal for switch

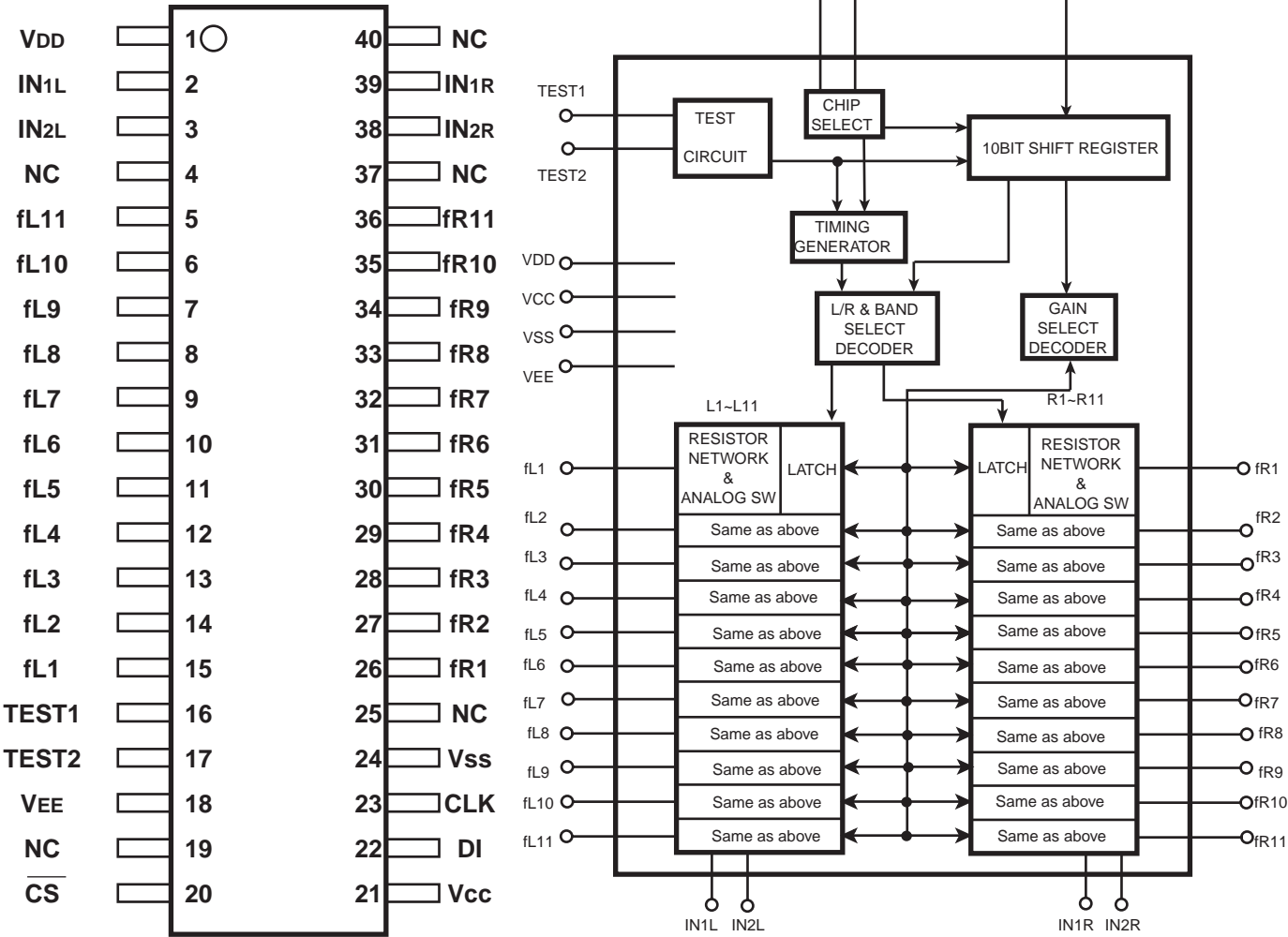
IC BLOCK DIAGRAMS AND DESCRIPTIONS

CY7C1019BV/CV33-15VCT(128KX8 static RAM)



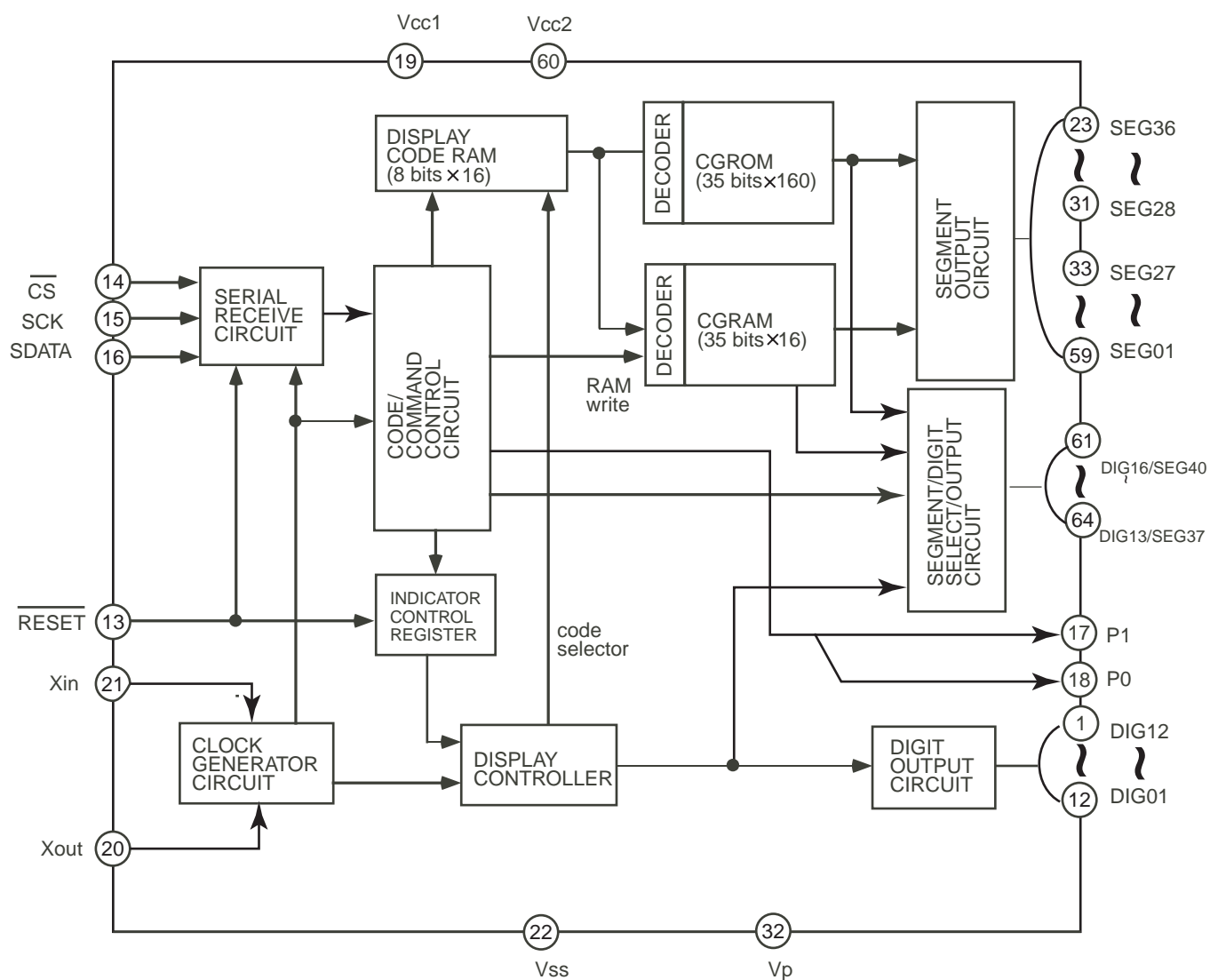
IC BLOCK DIAGRAMS AND DESCRIPTIONS

NJU7306G(Electric Volume)



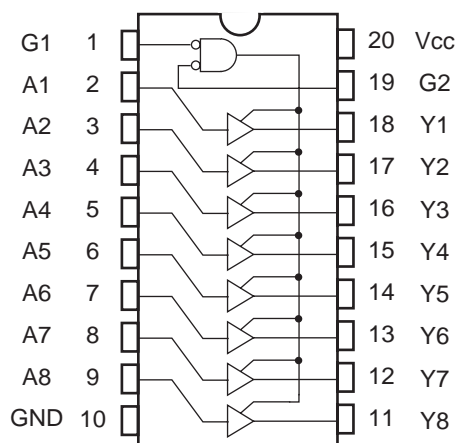
IC BLOCK DIAGRAMS AND DESCRIPTIONS

M66005-0001AFP(FL tube drive IC)



IC BLOCK DIAGRAMS AND DESCRIPTIONS

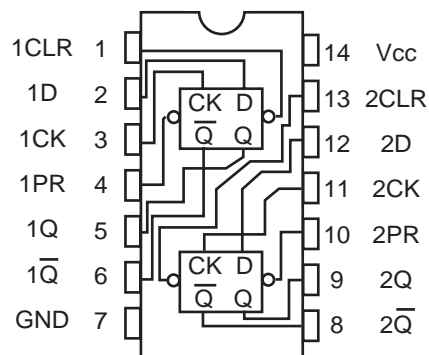
TC74VHC541FT(Octal bus buffer)



INPUTS			OUTPUT
$\overline{G1}$	$\overline{G2}$	A_n	
H	X	X	Z
X	H	X	Z
L	L	H	H
L	L	L	L

X :Don't care
Z :High impedance

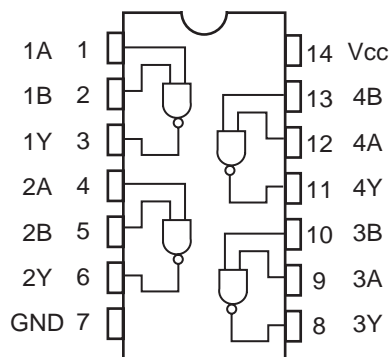
TC74VHC74FT(Dual D-FF with preset and clear)



INPUTS				OUTPUTS		FUNCTION
\overline{CLR}	\overline{PR}	D	CK	Q	\overline{Q}	
L	H	X	X	L	H	CLEAR
H	L	X	X	H	L	PRESET
L	L	X	X	H	H	————
H	H	L	↑	L	H	————
H	H	H	↑	H	L	————
H	H	X	↓	Qn	Qn	NO CHANGE

X: Don't care

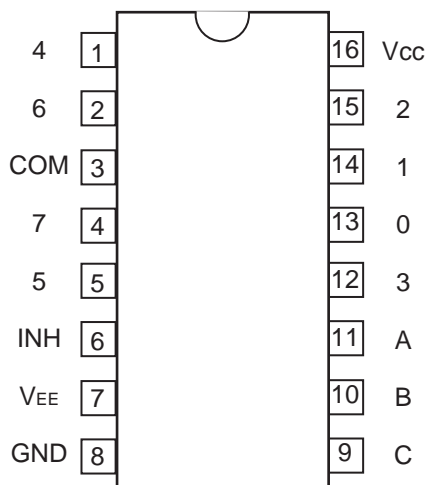
TC74VHCT00A(2-input NAND gate)



A	B	Y
L	L	H
L	H	H
H	L	H
H	H	L

IC BLOCK DIAGRAMS AND DESCRIPTIONS

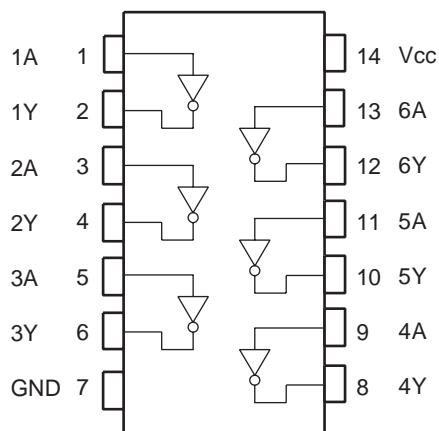
74HC4051AF(8-channel analog multiplexer/demultiplexer)



CONTROL INPUTS				OUTPUT
INHIBIT	C	B	A	"ON"
L	L	L	L	0
L	L	L	H	1
L	L	H	L	2
L	L	H	H	3
L	H	L	L	4
L	H	L	H	5
L	H	H	L	6
L	H	H	H	7
H	X	X	X	NONE

Truth table

74HCU04F(Hex Inverters)

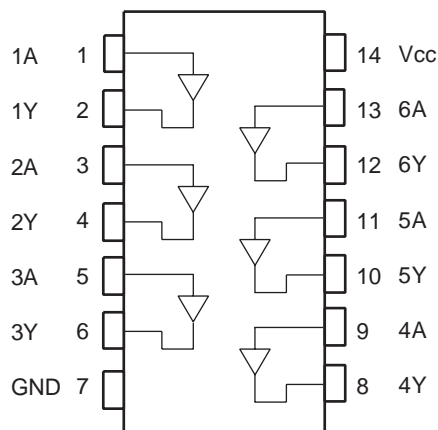


(TOP VIEW)

Truth table

A	Y
L	H
H	L

TC74HCT7007AF(Hex buffer)

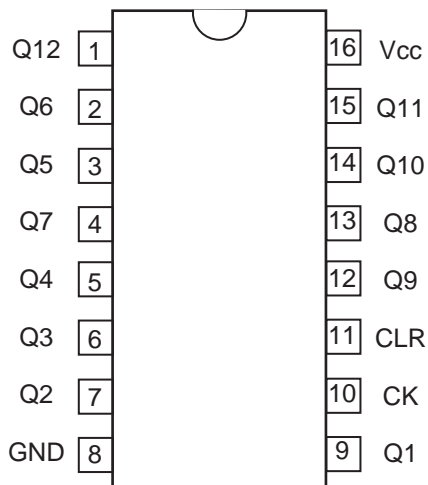


(TOP VIEW)

Truth table

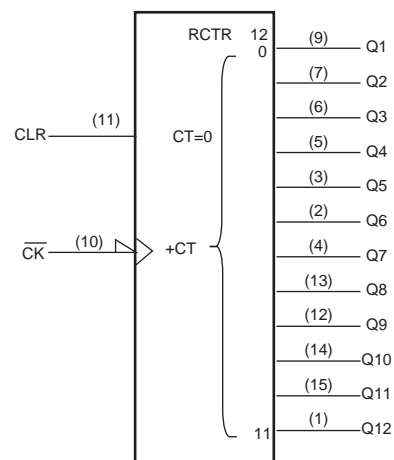
A	Y
L	L
H	H

TC74VHC4040FT(12-stage ripple-carry binary counter)



CK	CLR	OUTPUT
X	H	All "L"
	L	No change
	L	Next condition

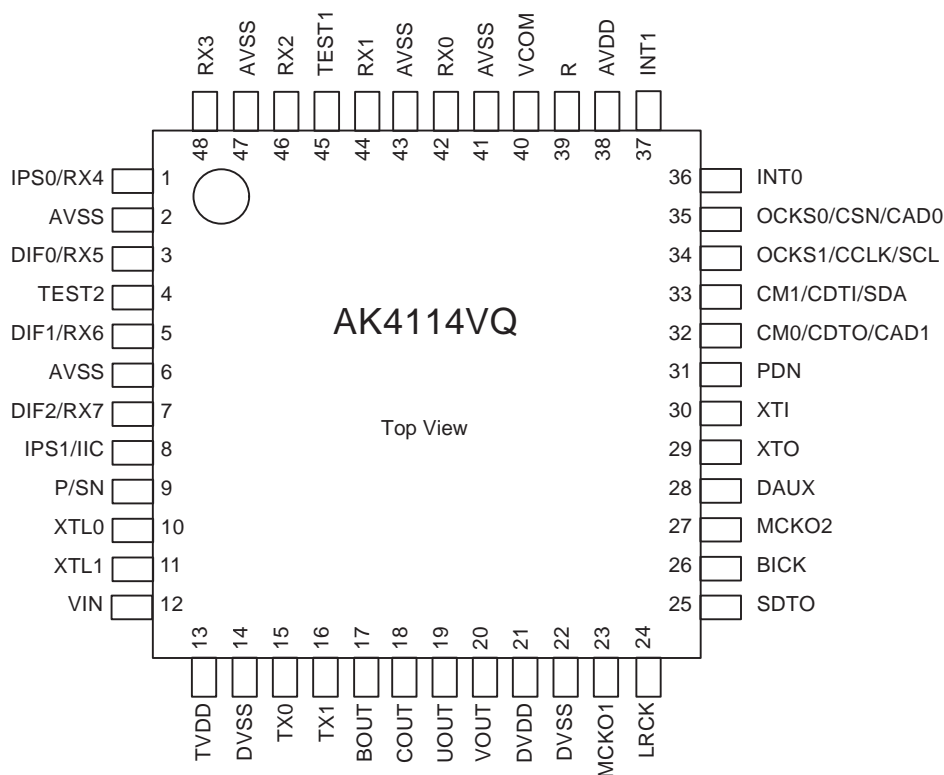
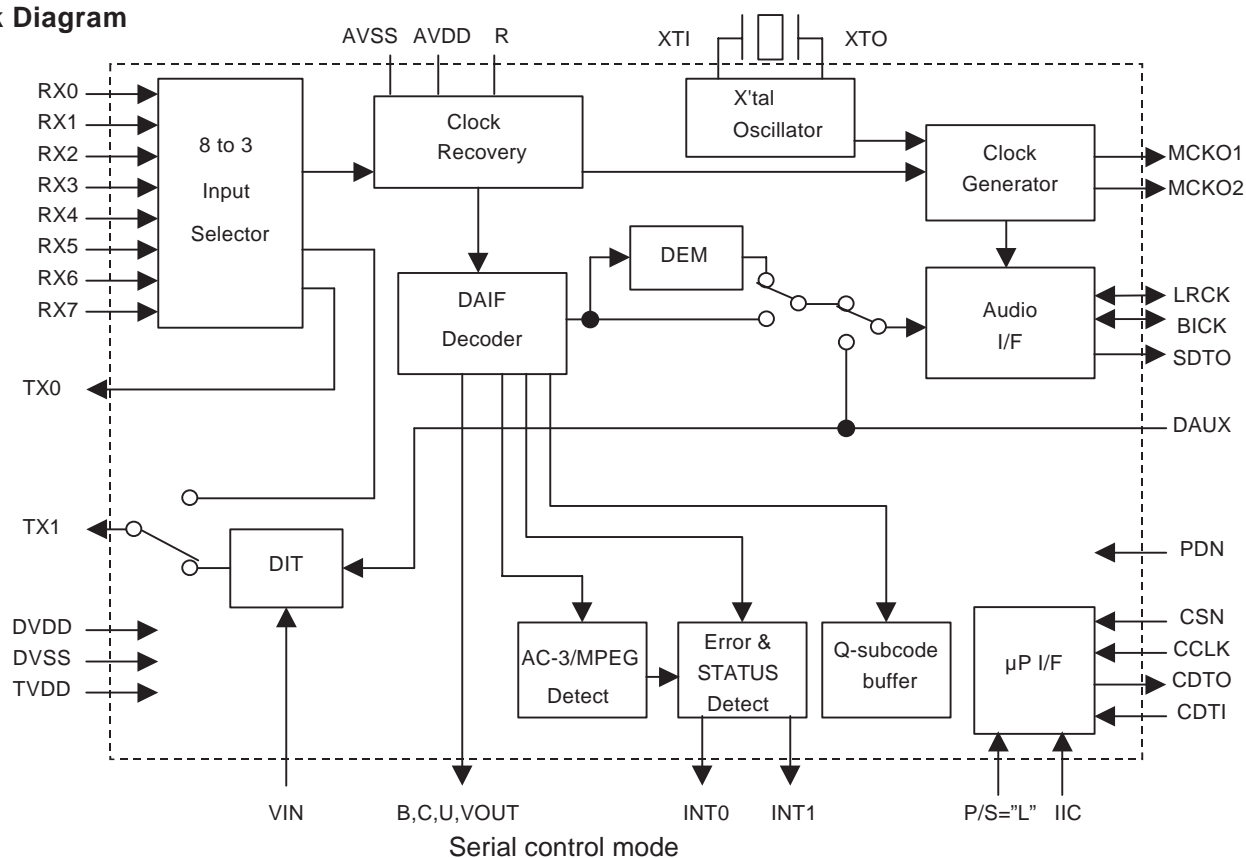
X: Don't care



IC BLOCK DIAGRAM AND DESCRIPTIONS

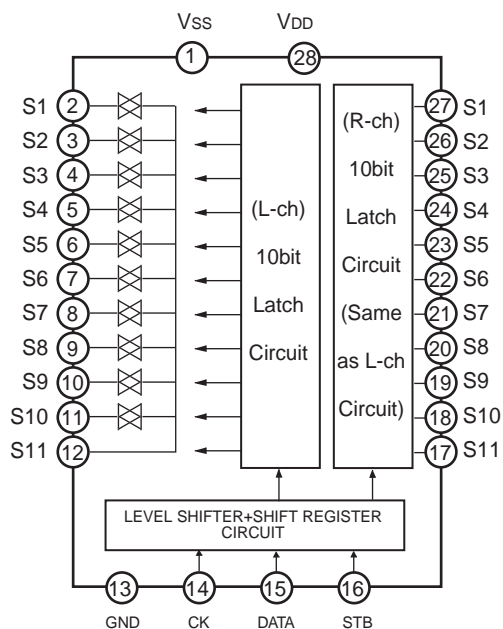
AK4114VQ(192kHz 24bit Digital Audio Interface Transceiver)

Block Diagram

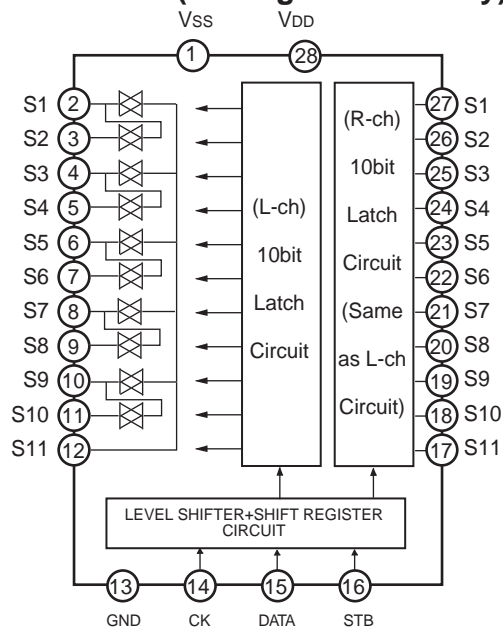


IC BLOCK DIAGRAMS AND DESCRIPTIONS

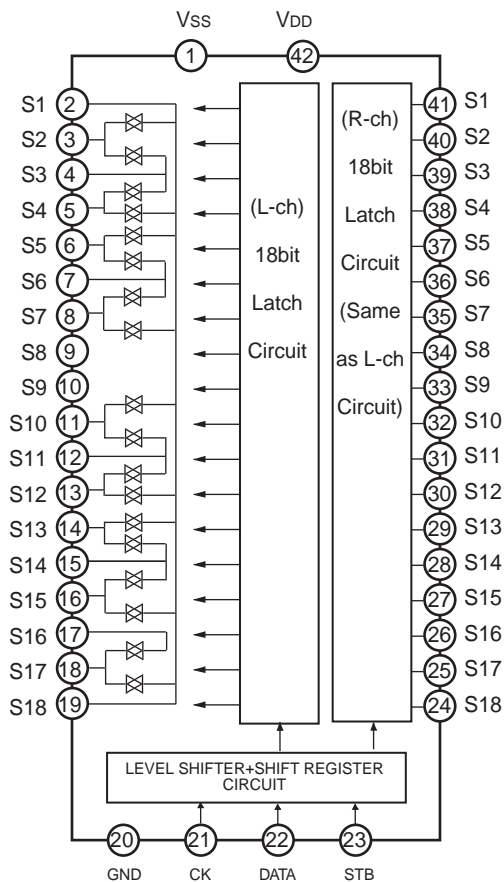
TC9273F-004(Analog Switch Array)



TC9273F-017(Analog Switch Array)



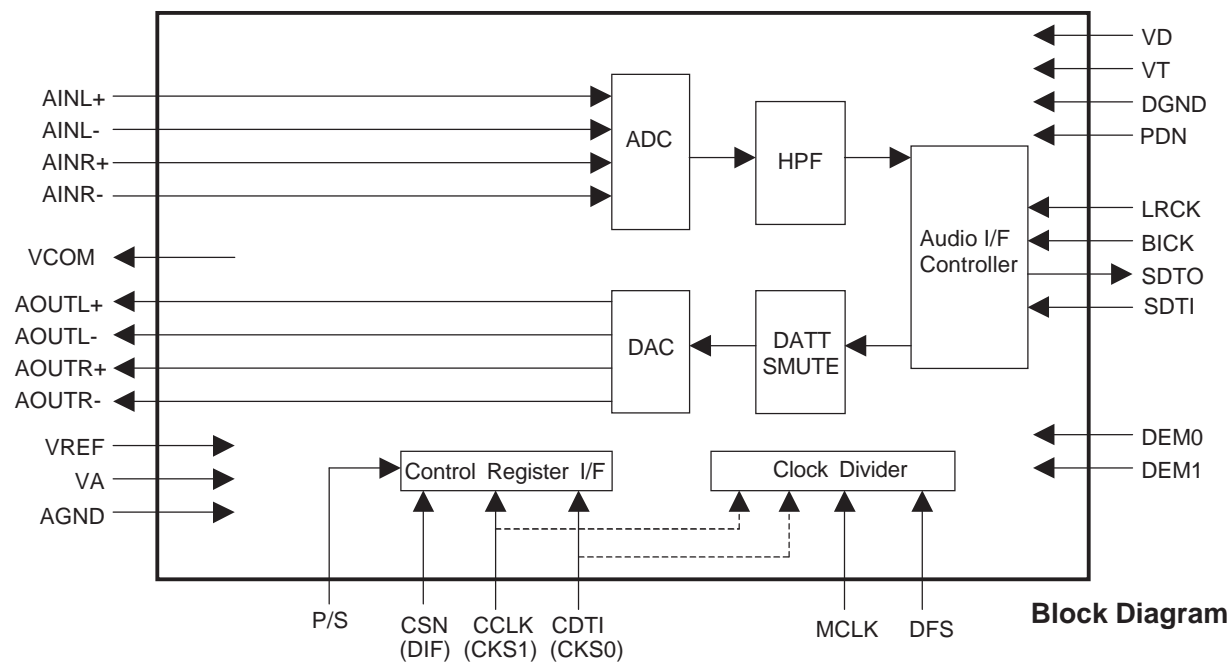
TC9274N-008(Analog Switch Array)



Pin No.	Symbol	Description
1	Vss	Negative power supply pin
13	GND	Digital ground pin
28	VDD	Positive power supply pin
2/27	S1	Input/Output pins
3/26	S2	
4/25	S3	
5/24	S4	
6/23	S5	
7/22	S6	
8/21	S7	
9/20	S8	
10/19	S9	
11/18	S10	
12/17	S11	
14	CK	Clock input pin for data transfer.
15	DATA	Serial data input pin for setting switches.
16	STB	Strobe input pin for data writing.

Pin No.	Symbol	Description
1	Vss	Negative power supply pin
20	GND	Digital ground pin
42	VDD	Positive power supply pin
3-19	S1-S18	Input/Output pins
41-24	S1-S18	
21	CK	Clock input pin for data transfer.
22	DATA	Serial data input pin for setting switches.
23	STB	Strobe input pin for data writing.

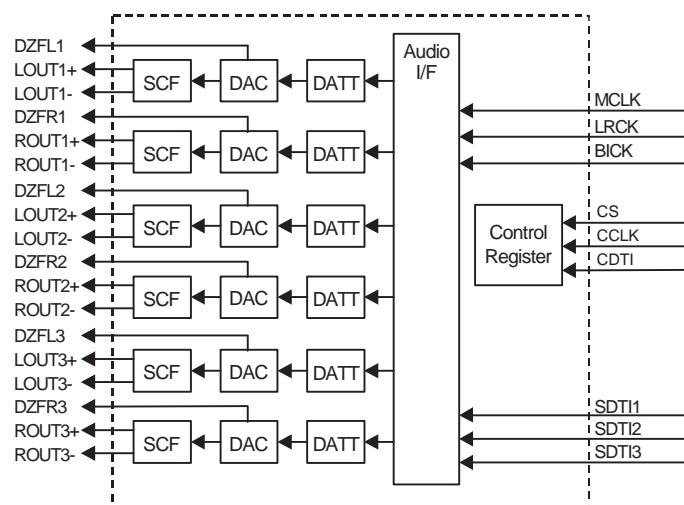
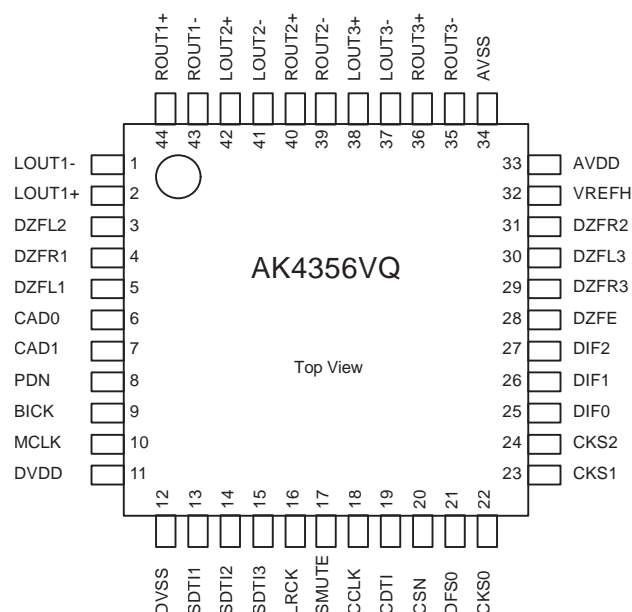
IC BLOCK DIAGRAM AND DESCRIPTIONS
AK4528VF(24 bit 96 kHz Audio CODEC)



No.	Pin Name	I/O	Function
1	VOM	O	Common Voltage Output Pin,VA/2. Bias voltage of ADC inputs and DAC outputs.
2	AINR+	I	Rch Positive Input Pin.
3	AINR-	I	Rch Negative Input Pin.
4	AINL+	I	Lch Positive Input Pin.
5	AINL-	I	Lch Negative input Pin.
6	VREF	I	Voltage Reference Input Pin,VA. Used as a voltage reference by ADC & DAC,VREF is connected externally to filtered VA.
7	AGND	-	Analog Ground Pin
8	VA	-	Analog Power Supply Pin,4.75~5.25V.
9	P/S	I	Parallel/Serial Mode Select Pin. "L":Serial Mode,"H":Parallel Mode
10	MCLK	I	Master Clock Input Pin
11	LRCK	I	Input/Output Channel Clock Pin
12	BICK	I	Audio Serial Data Clock Pin.
13	SDTO	O	Audio Serial Data Output Pin.
14	SDTI	I	Audio Serial Data Input Pin.
15	CDTI CKS0	I	Control Data Input Pin in Serial Mode. Master Clock Select Pin.
16	CCLK CKS1	I	Control Data Clock Pin in Serial Mode. Master Clock Select Pin.
17	CSN DIF	I	Chip Select Pin in Serial Mode. Digital Audio Interface Select Pin, "L":24bit MSB justified,"H":I ² S compatible.
18	DFS	I	Double Speed Sampling Mode Pin.
19	PDN	I	Power-Down Mode Pin. "H":Power up, "L":Power down reset and initialize the control register.
20	DEM0	I	De-emphasis Control Pin
21	DEM1	I	De-emphasis Control Pin
22	VT	-	Output Buffer Power Supply Pin,2.7~5.25V
23	VD	-	Digital Power Supply Pin, 4.75~5.25V.
24	DGND	-	Digital Ground Pin
25	AOUTL-	O	Lch Negative Analog Output Pin.
26	AOUTL+	O	Lch Positive Analog Output Pin.
27	AOUTR-	O	Rch Negative Analog Output Pin.
28	AOUTR+	O	Rch Positive Analog Output Pin.

IC BLOCK DIAGRAM AND DESCRIPTIONS

AK4356VQ(192kHz 24Bit 6ch DAC for DVD-Audio)



No.	Function	I/O	Description
1	LOUT1-	O	Analog positive output pin of left channel of DAC 1.
2	LOUT1+	O	Analog negative output pin of left channel of DAC 1.
3	DZFL2	O	Zero calibration pin of left channel of DAC 2.
4	DZFR1	O	Zero calibration pin of right channel of DAC 1.
5	DZFL1	O	Zero calibration pin of left channel of DAC 1.
6	CAD0	I	Chip address select 0 pin
7	CAD1	I	Chip address select 1 pin.
8	PDN	I	Power down and reset pin.
9	BICK	I	Audio serial data clock input pin.
10	MCLK	I	Master clock input pin.
11	DVDD	-	Digital section power supply pin. Apply 4.75V to 5.25V.
12	DVSS	-	Digital section ground pin. 0V
13	SDTI1	I	Audio serial data input pin of DAC 1.
14	SDTI2	I	Audio serial data input pin of DAC 2.
15	SDTI3	I	Audio serial data input pin of DAC 3.
16	LRCK	I	Input channel clock pin.
17	SMUTE	I	Soft muting pin.
18	CCLK	I	Control data clock pin.
19	CDTI	I	Control data input pin.
20	CSN	I	Chip select pin.
21	DFS0	I	Double speed sampling mode 0 pin.
22	CKS0	I	Input clock select 0 pin.
23	CKS1	I	Input clock select 1 pin.
24	CKS2	I	Input clock select 2 pin.
25	DIF0	I	Audio data interface format 0 pin.
26	DIF1	I	Audio data interface format 1 pin.
27	DIF2	I	Audio data interface format 2 pin.
28	DZFE	I	Input pin to use the offset calibration.
29	DZFR3	O	Zero calibration pin of right channel of DAC 3.
30	DZFL3	O	Zero calibration pin of left channel of DAC 3.
31	DZFR2	O	Zero calibration pin of right channel of DAC 2.
32	VREFH	I	Reference voltage input pin. Connect to AVDD.
33	AVDD	-	Analog power supply pin. Apply 4.75 V to 5.25 V.
34	AVSS	-	Analog ground pin.
35	ROUT3-	O	Analog positive output pin of right channel of DAC 3.
36	ROUT3+	O	Analog negative output pin of right channel of DAC 3.
37	LOUT3-	O	Analog positive output pin of left channel of DAC 3.
38	LOUT3+	O	Analog negative output pin of left channel of DAC 3.
39	ROUT2-	O	Analog positive output pin of right channel of DAC 2.
40	ROUT2+	O	Analog negative output pin of right channel of DAC 2.
41	LOUT2-	O	Analog positive output pin of left channel of DAC2.
42	LOUT2+	O	Analog negative output pin of left channel of DAC 2.
43	ROUT1-	O	Analog positive output pin of right channel of DAC 1.
44	ROUT1+	O	Analog negative output pin of right channel of DAC 1.

FL TUBE VIEW

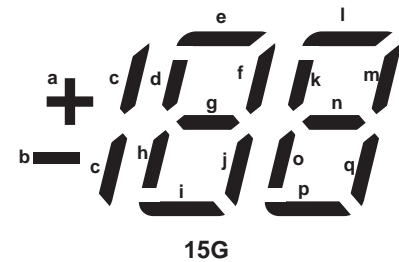
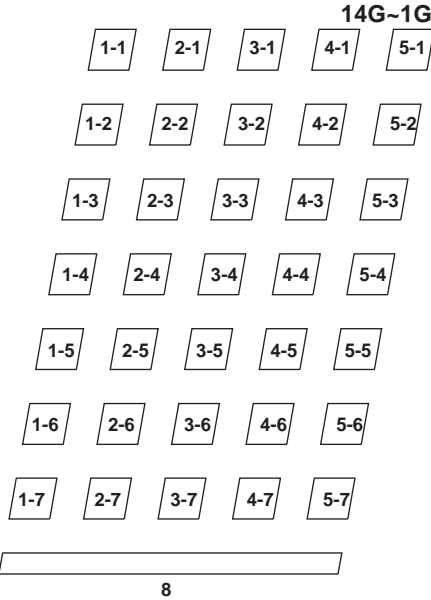
HNA-16MM40T

(Left) (1) (Center) 15G (2) (Right) (3) 16G

NETWORK	AC-3 RF	DIGITAL	AAC	PCM MP3 WMA	EX PRO LOGIC II	DSP	Ultra2	AUTO	RDS
IEEE1394	DIGITAL	dts	96/24 Discrete Matrix 6.1	96k	STEREO	THX	Select2	TUNED	FM STEREO
MULTI CH	ANALOG			6.1	Neo:6 DIRECT		Surround EX	SLEEP	

ch dB +100 dB

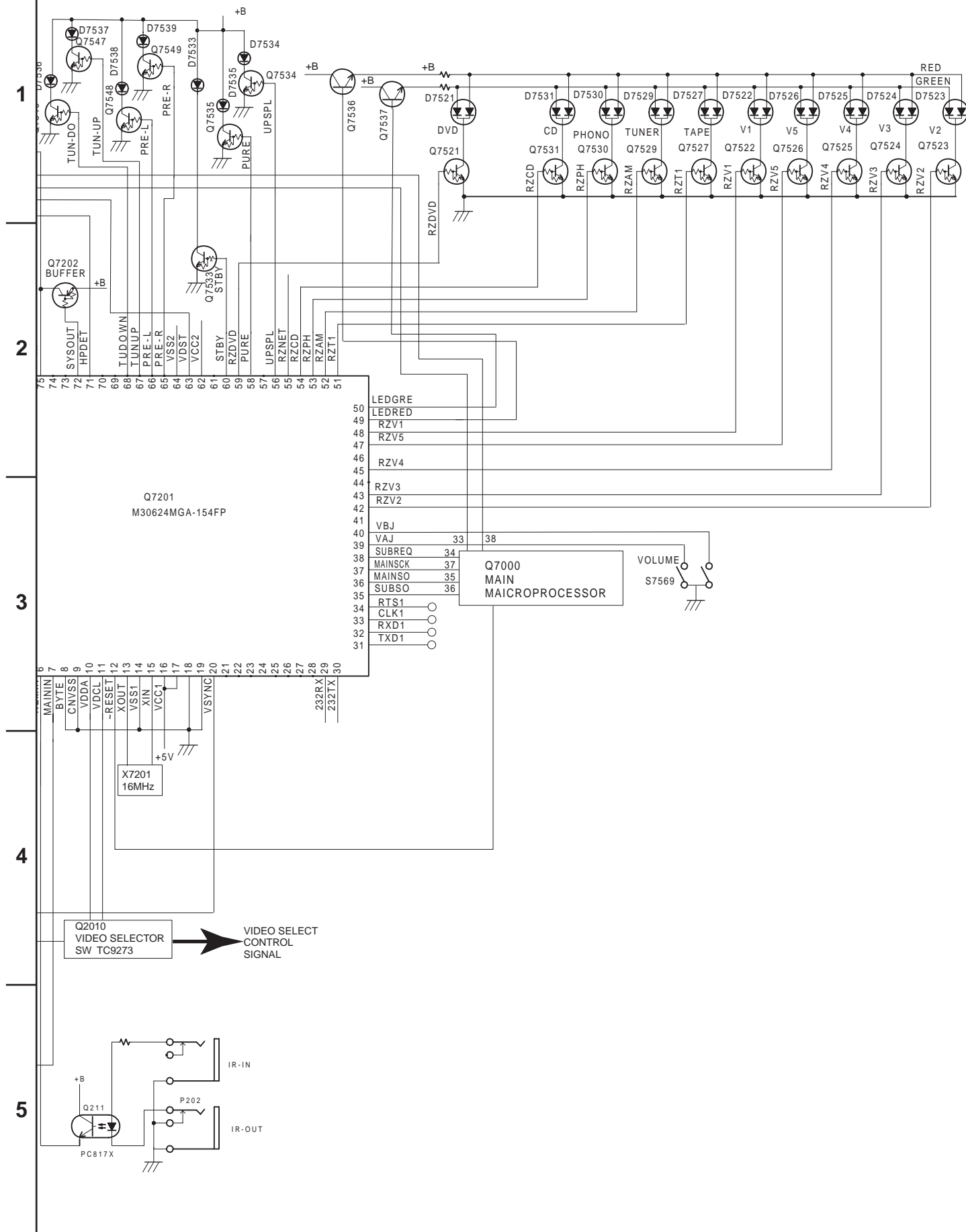
14G 13G 12G 11G 10G 9G 8G 7G 6G 5G 4G 3G 2G 1G (Left) (Right)



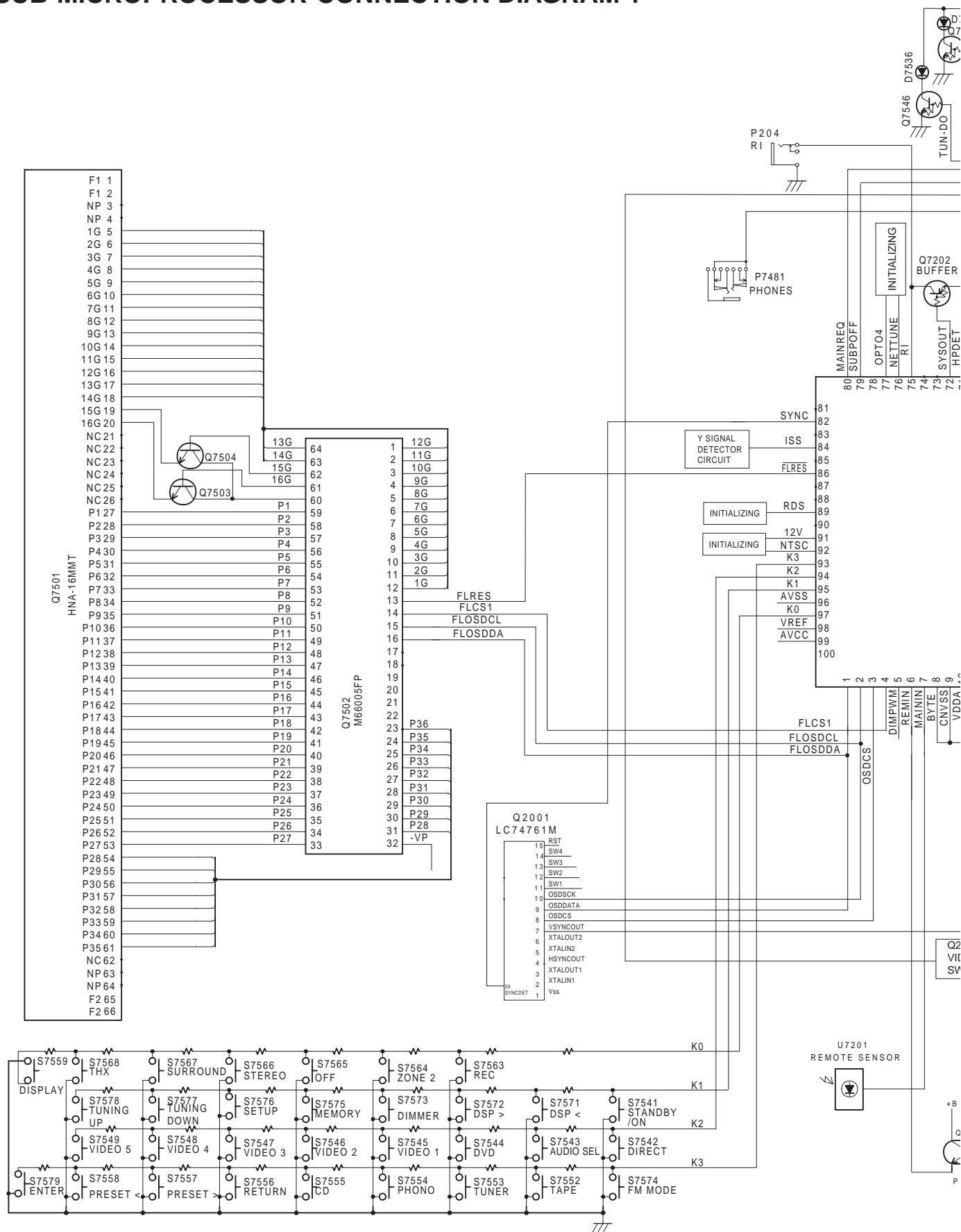
	16G	15G	14G~1G
P1	AUTO	(3)	1-1
P2	RDS	Surround EX	2-1
P3	TUNED	Select2	3-1
P4	FM STEREO	Ultra2	4-1
P5	SLEEP	THX	5-1
P6	ch	DIRECT	1-2
P7	dB(Left)	STEREO	2-2
P8	a	Neo:6	3-2
P9	b	PRO LOGIC II	4-2
P10	c	dts (Right)	5-2
P11	d	EX	1-3
P12	e	EX(Left)	2-3
P13	f	(2)	3-3
P14	g	6.1	4-3
P15	h	Matrix	5-3
P16			1-4
P17			2-4

	16G	15G	14G~1G
P18	i	Discrete	3-4
P19	j	96/24	4-4
P20	k	96k	5-4
P21	l	WMA	1-5
P22	m	MP3	2-5
P23	n	PCM	3-5
P24	o	AAC	4-5
P25	p	96/24	5-5
P26	q	dts (Center)	1-6
P27	dB(Right)	DIGITAL(Center)	2-6
P28	-	EX (Center)	3-6
P29	-	(1)	4-6
P30	-	ANALOG	5-6
P31	-	DIGITAL (Left)	1-7
P32	-	AC-3 RF	2-7
P33	-	MULTI CH	3-7
P34	-	IEEE1394	4-7
P35	-	NETWORK	5-7
P36	-	-	8

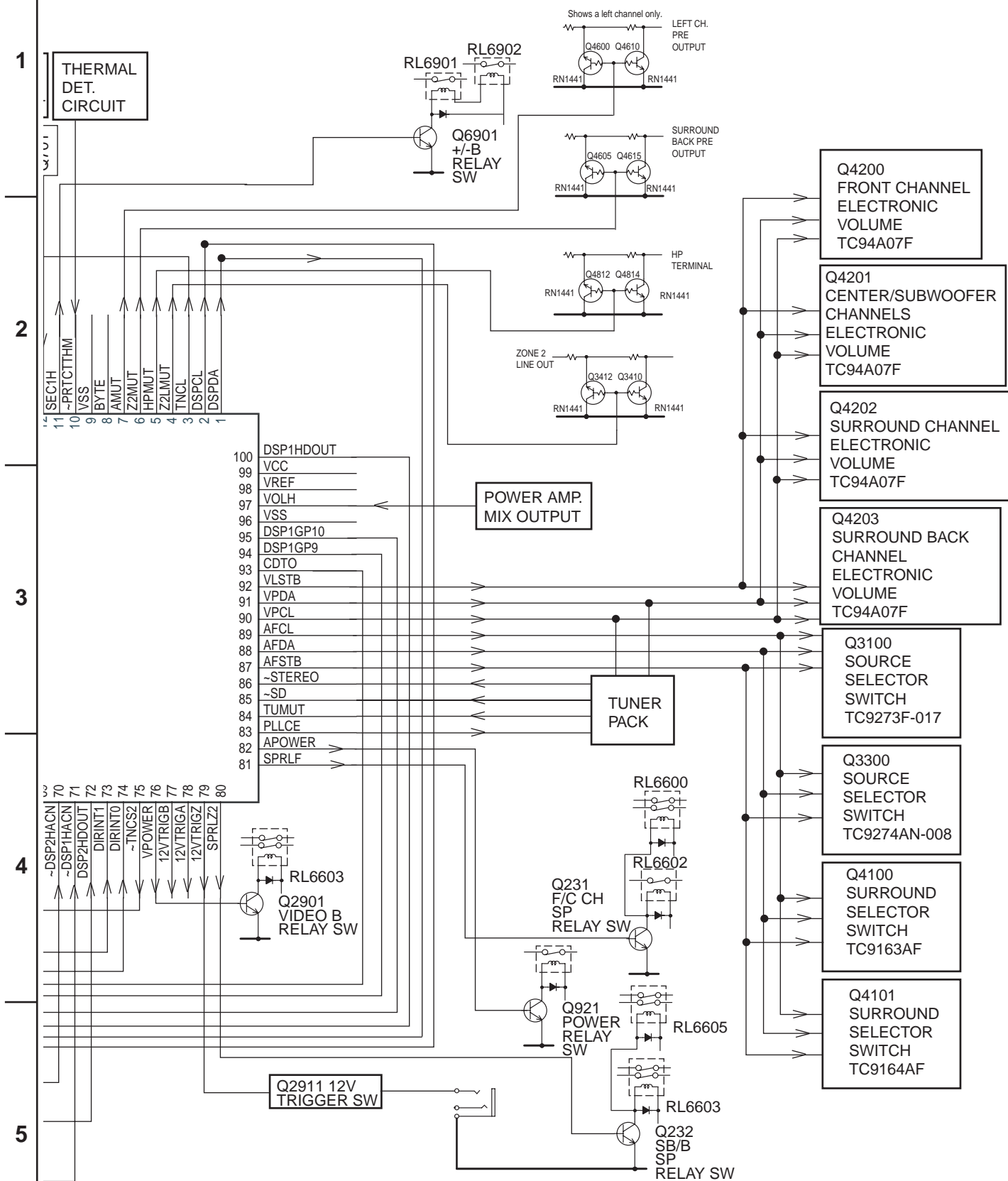
SUB-MICROPROCESSOR-CONNECTION DIAGRAM 2



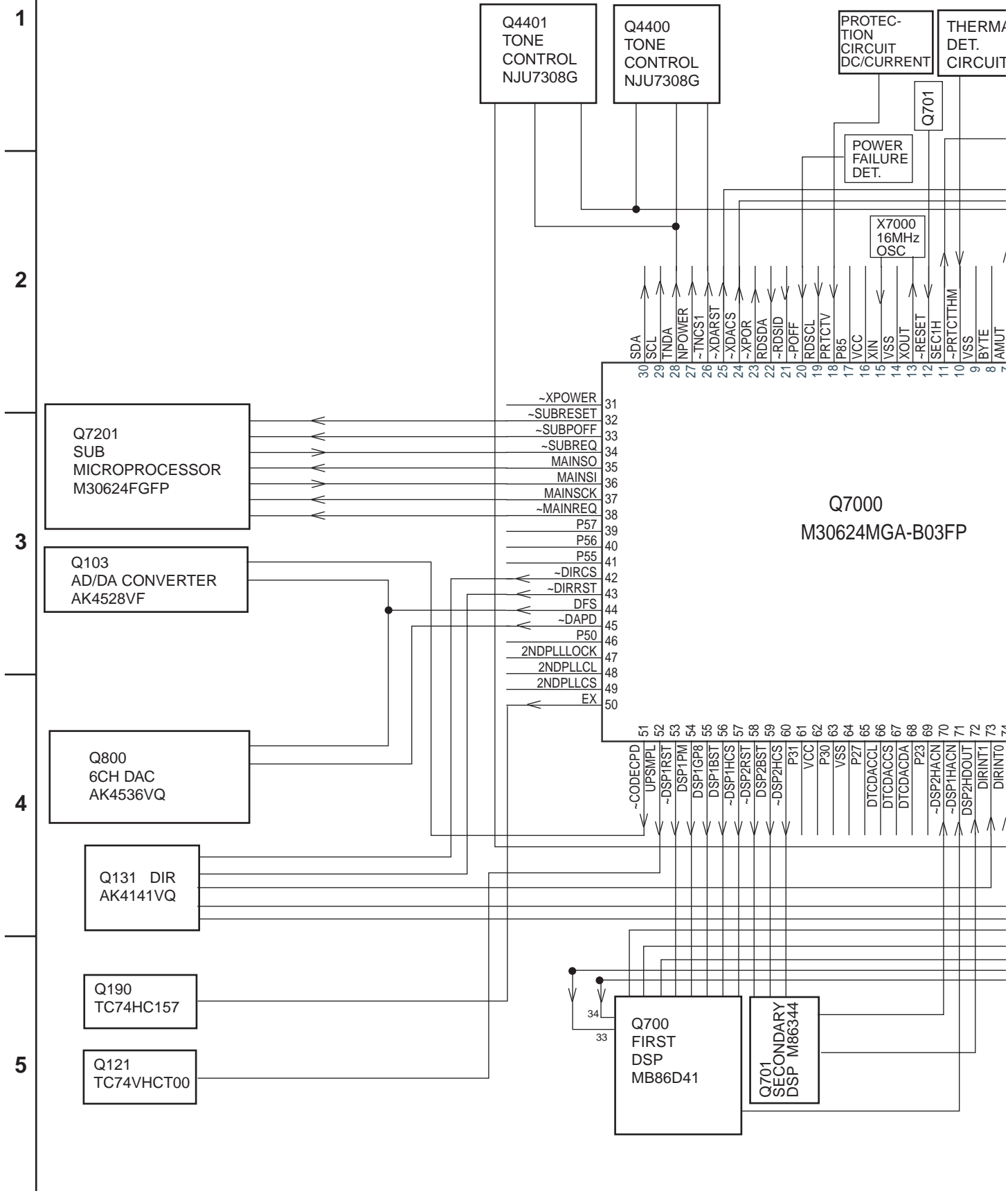
SUB-MICROPROCESSOR-CONNECTION DIAGRAM 1



MAIN MICROPROCESSOR-CONNECTION DIAGRAM 2



MAIN MICROPROCESSOR-CONNECTION DIAGRAM 1



SUBMICROPROCESSOR-TERMINAL DESCRIPTION

No.	Function	I/O	Descriptions
1	FLOSDDA	O	Serial data output pin for FL tube driver and OSD IC.
2	FLOSDCL	O	Serial clock output pin for FL tube driver and OSD IC.
3	OSDCS	O	Chip select output pin for OSD IC
4	FLCS1	O	Chip select output pin for FL tube driver
5	DIMPWM	O	Dimmer output pin. Not used.
6	REMIN	I	Signal input pin from external remote control
7	MAININ	I	Signal input pin from remote control
8	BYTE	I	External data bus width select pin.
9	CNVSS		Power supply pin
10	VDDA	O	Serial data output pin for video function switch IC
11	VDCL	O	Serial clock input pin for video function switch IC
12	~RESET	I	System reset input.
13	XOUT	O	Connect the ceramic oscillator 16MHz.
14	VSS		Ground pin
15	XIN	I	Connect the ceramic oscillator 16MHz.
16	VCC		Power supply pin. Apply 5V.
20	VSYNC	I	Vertical synchronizing signal input pin.
24	PURE	O	Pure audio relay control output pin. Not used.
29	232RX	I	Receiving input pin of RS232C. Not used.
30	232TX	O	Sending output pin of RS232C. Not used.
31	TXD1	O	Rewrite sending output pin to flash writer.
32	RXD1	I	Rewrite receiving input pin from flash writer.
33	CLK1	I	Rewrite clock input pin from flash writer.
34	RTS1	O	Rewrite response output pin to flash writer.
35	SUBSO	O	Data sending output pin to communicate between microprocessors.
36	MAINSO	I	Data receiving input pin to communicate between microprocessors.
37	MAINCL	I	Clock receiving input pin to communicate between microprocessors.
38	SUBREQ	O	Request signal output pin to communicate between microprocessors.
39	VAJ	I	Pulse signal input terminal A pin from rotary encoder.
40	VBJ	I	Pulse signal input terminal B pin from rotary encoder.
42	RZV2	O	Video 2 indicator output pin.
43	RZV3	O	Video 3 indicator output pin.
45	RZV4	O	Video 4 indicator output pin.
47	RZV5	O	Video 5 indicator output pin.
48	RZV1	O	Video 1 indicator output pin.

No.	Function	I/O	Descriptions
49	LEDRED	O	Power supply control output pin for recording indicator.
50	LEDGRE	O	Power supply control output pin for zone 2 indicator
51	RZT1	O	Tape indicator output pin.
52	RZAM	O	AM indicator output pin.
53	RZFM	O	FM indicator output pin.
54	RZPH	O	Phono indicator output pin.
55	RZCD	O	CD indicator output pin.
56	UPSPL	O	Upsampling frequency indicator control output pin
58	PURE	O	Pure audio indicator output pin.
59	RZDVD	O	DVD indicator output pin.
60	STBY	O	STANDBY/RECEIVED indicator output pin.
62	VCC		Power supply pin. Apply 5V.
63	VDST	O	Strobe output pin for video switch control output pin
64	VSS2		Power supply pin. Connect to ground.
71	HPDET	I	Headphone detection input pin.
72	SYSOUT	O	System code output pin
75	SYSIN	I	System code input pin.
76	AREA1	I	Initializing input pin for band aria.
77	AREA2	I	Initializing input pin for band aria.
79	SUBPOFF	I	Power failure intercept input pin between microprocessors.
80	MAINREQ	I	Request input to communicate data between microprocessors.
82	SYNCDDET	I	External synchronizing detection input pin.
84	ISS	I	S video signal detection input pin.
86	FLRES	O	Reset signal output pin to the FL tube driver IC.
89	TUNER	I	Initializing input pin about tuner.
90	VIDEO	I	Initializing input pin about video.
91	ZONE2	I	Initializing input pin about zone 2.
92	12V DIM	I	Initializing input pin about dimmer.
93	K3	I	Operation key connection pin.
94	K2	I	Operation key connection pin.
95	K1	I	Operation key connection pin.
96	VSS		Power supply pin for A/D converter.
97	K0	I	Operation key connection pin.
98	VREF		Reference voltage input pin for A/D converter.
99	AVCC		Power supply pin for A/D converter. Apply 5V.

MAIN MICROPROCESSOR-TERMINAL DESCRIPTION

No.	Function	I/O	Description
1	DSPDA	O	Serial data output pin to transfer the data to DSP, DIR, Nettune DAC and Second PLL ICs.
2	DSPCL	O	Serial clock output pin to transfer the data to DSP, DIR and Nettune DAC ICs.
3	TNCL	CLK	Serial clock output pin for the tone control ICs.
4	Z2LMUT	O	Muting control signal output pin for line of zone 2 channel.
5	HPMUT	O	Muting control signal output pin for headphone.
6	Z2MUT	O	Muting control signal output pin for zone 2 channel when the power source is turned on.
7	AMUT	O	Muting control signal output pin of analog section.
8	VSS		External data bus width select pin.
9	VSS		Processor mode select pin
10	~PRTCTTHM	I	Detection input pin for thermal protect.
11	SEC1H	O	Primary voltage select pin for main amplifier.
12	~RESET		System reset input pin
13	XOUT		System clock output pin. Connect 16MHz ceramic resonator between #13 and #15.
14	VSS		Ground pin.
15	XIN		System clock input pin. Connect 16MHz ceramic resonator between #13 and #15.
16	VCC		Power supply pin. Apply 5V.
17		I	Not used.
18	PRTCTV	I	Detection input pin for protection circuit of abnormal voltage and current.
19	RDSCL	I	Serial clock input pin of RDS demodulator.
20	~POFF	I	Power failure detection input pin.
21	~RDSID	I	Identification input pin of RDS demodulator.
22	RSDA	I	Serial data input pin to transfer RDS demodulator.
23	~XPOR	O	Reset output pin to multi media microprocessor when power is turned on.
24	~XDACS	O	Chip select output pin of DAC for Nettune.
25	~XDARST	O	Reset signal output pin of DAC for Nettune.
26	~TNCS1	O	Chip select output pin for tone control IC of front channel.
27	NPOWER	O	Power supply control output pin of audio circuit.
28	TNDA	O	Serial data output pin to tone control IC.
29	IICSCS	O	Serial clock output pin to Y/C, Component separation IC.
30	IICSDA	O	Serial data output pin to Y/C, Component separation IC.
31	~XPOWER	O	Power supply control output pin. Not used.
32	~SUBRESET	O	Reset signal output pin for submicroprocessor.
33	~SUBPOFF	O	Power off output pin to submicroprocessor
34	~SUBREQ	I	Transfer request signal input pin for submicroprocessor.
35	MAINSO	O	Serial data output pin to transfer data between main and submicroprocessor.
36	MAINSI	I	Serial data input pin to transfer data between main and submicroprocessor.
37	MAINSCK	O	Serial clock output pin to transfer data between main and submicroprocessor.
38	~MAINREQ	O	Request signal output pin to transfer data between main and submicroprocessor.
39		O	Not used.
40	(2ndBTACTION)	O	Not used.
41		I	Mode setting pin to write the program on flash microprocessor.
42	~DIRCS	O	Chip select output pin to DIR(AK4114) IC.
43	~DIRRST	O	Reset output pin to DIR IC.
44	DFS	O	DFS output pin of DAC and CODEC ICs.
45	~DAPD	O	Power down output pin of DAC.
46		I	Write mode setting pin of flash microprocessor.
47	K	I	Lock input pin of second PLL IC.
48	2NDPLLCL	O	Clock output pin to second PLL IC.
49	2NDPLLCS	O	Chip select output pin of second PLL IC.
50	EX	O	Input select output pin of nettune.

No.	Function	I/O	Description
51	~CODECPD	O	Power down output pin of CODEC IC.
52	UPSMPL	O	Clock select output pin for up-sampling.
53	~DSP1RST	O	Reset output pin of first DSP IC.
54	DSP1PM	O	PLL initializing output pin of first DSP IC.
55	DSP1GP8	O	PCM or Non PCM information output pin of first DSP IC.
56	DSP1BST	O	Host I/F bootstrap output pin of first DSP IC.
57	~DSP1HCS	O	Host I/F chip select output pin of first DSP IC.
58	~DSP2RST	O	Second DSP reset output pin.
59	DSP2BST	O	Host I/F bootstrap output pin of second DSP IC.
60	~DSP2HCS	O	Host I/F chip select output pin of second DSP IC.
61	(2ndBOOT)	O	"L" fixed output pin.
62	VCC		Power supply pin. Apply +5V.
63	(2ndPAGESE)	O	"H" fixed output pin.
64	VSS		Power supply pin. Ground
65	(HPAGE)	O	"L" fixed output pin.
66	DTCDACCL	O	Clock output pin for DAC of DTC.D
67	DTCDACCS	O	Chip select output pin for DAC of DTC.D
68	DTCDACDA	O	data output pin for DAC of DTC.D
69	(2ndGP10)	O	"L" fixed output pin.
70	~DSP2HACN	I	Host I/F acknowledgement input pin of second DSP.2
71	~DSP1HACN	I	Host I/F acknowledgement input pin of first DSP.1.
72	DSP2HDOUT	I	Host I/F serial data output pin to second DSP IC.
73	DIRINT1	I	INT 1 input pin of DIR IC.
74	DIRINT0	I	INT 0 input pin of DIR IC.
75	~TNCS2	O	Chip select output pin to tone control IC.
76	VPOWER	O	Power supply relay control output pin of video circuit.
77	12VTRGB	O	12V trigger output pin B.
78	12VTRGA	O	12V trigger output pin A.
79	12VTRGZ	O	12V trigger output pin ZONE 2.
80	SPRLZ2	O	Speaker relay control output pin for Zone 2.
81	SPRLF	O	Speaker relay control output pin for all channels.
82	APOWER	O	Power supply relay control output pin of audio circuit.
83	PLLCE	O	Chip enable output pin to PLL IC.
84	TUMUT	O	Muting control output pin for tuner section.
85	~SD	I	Detection input pin for signal strength.
86	~STEREO	I	Detection input pin for FM stereo broadcast.
87	AFSTB	O	Strobe signal output pin of analog function switch ICs.
88	AFDA	O	Serial data output pin for function switch ICs.
89	AFCL	O	Serial clock output pin for function switch ICs.
90	VPCL	O	Serial clock output pin for electric volume and PLL ICs.
91	VPDA	O	Serial data output pin for electric volume and PLL ICs.
92	VLSTB	O	Strobe output pin of electrical volume.
93	CDT0	I	Serial data input pin for DSP and DIR ICs.
94	DSP1GP9	I	Permission information input pin to read bit stream information of first DSP.
95	DSP1GP10	I	INTREQ input pin of first DSP IC.
96	VSS		Ground pin for A/D converter.
97	VOLH	I	Input pin to measure the output voltage of main amplifier.
98	VREF		Reference voltage input pin for A/D converter.
99	VCC		Power supply pin for A/D converter.
100	DSP1HDOUT	I	Serial data output pin of host I/F of first DSP.

ADJUSTMENT AND CONFIRMATION PROCEDURES 1

Idling current adjustment

Before Idling current adjustment, turn the trimming resistors R6040 to R6046 to counter-clockwise.

Connect the DC voltmeter at the sockets P6080 to P6086.

After turn POWER to ON, adjust the trimming resistors R6040, R6041 and R6042 so that the reading of voltmeter becomes 11 mV. (Front and center channels)

Adjust the trimming resistors R6043, R6044, R6045 and R6046 so that the reading of voltmeter becomes 4.5 mV. (Surround and surround back channels)

After adjustment, attach the top cover.

Confirm the voltage of points above after about five minutes.

Front and center channels

When less than 16.5 mV, readjust the resistors above so that the voltage becomes 16.5 mV.

When 16.5 mV to 18.5 mV, you are not necessary to adjust.

When more than 18.5 mV, readjust the resistors above so that the voltage becomes 18.5 mV.

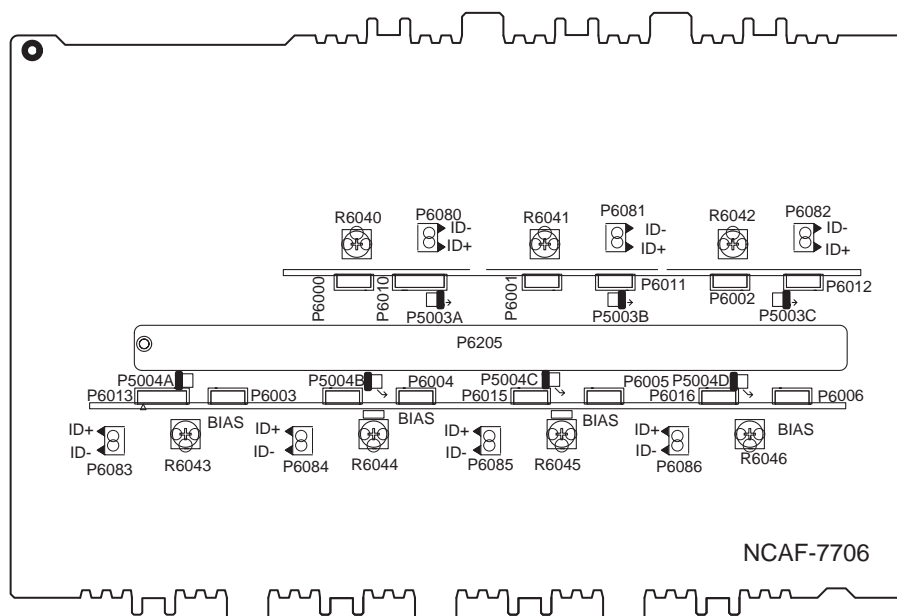
Surround and surround back channels

When less than 6.0 mV, readjust the resistors above so that the voltage becomes 6.0 mV.

When 6.0 mV to 8.0 mV, you are not necessary to adjust.

When more than 8.0 mV, readjust the resistors above so that the voltage becomes 8.0 mV.

Note: No load and No signal



Confirmation of protection circuit

1. Confirmation of operation of speaker relay

Confirm that the speaker relays turn ON approximate. 5 seconds after the power switch is turned ON.

Confirm that the speaker relays turn OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit

Press and hold down CD button, then press STANDBY/ON and DISPLAY buttons to set the unit to "Test-1" mode.

After "Test-1" on the FL tube light on, press VIDEO 1 button to set the unit to "Test-1-00".

Apply DC 1.5 to 3.5V to the MULTI-CH INPUT terminal with no load.

Confirm that the speaker relay turns OFF.

Apply DC -1.5 to -3.5 V to the MULTI-CH INPUT terminal with no load.

Confirm that the speaker relay turns OFF.

Caution: Don't apply DC voltage more than 1 sec..

ADJUSTMENT AND CONFIRMATION PROCEDURES 2

3. Confirmation of Current detection circuit

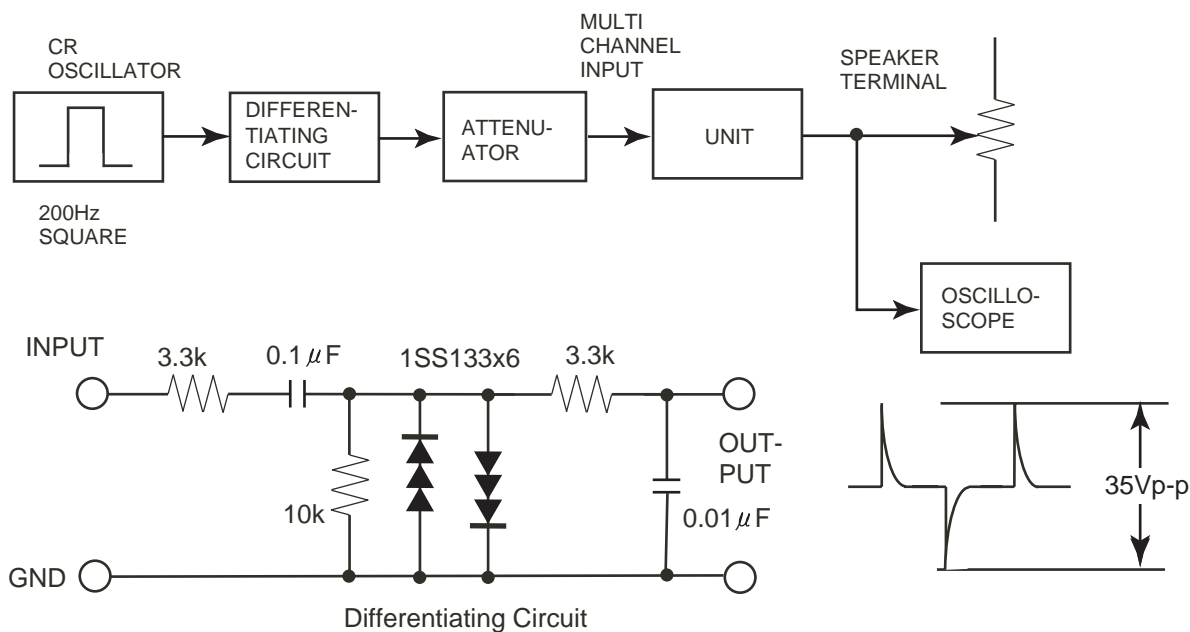
Set the unit to "TEST-1-00".

Connect the differentiating circuit and apply the 200Hz square signal to MULTI CHANNEL INPUT terminal.

Adjust the attenuator or Volume so that the output level becomes 35V p-p.

Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.

Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.



4. Confirmation of fan

Set the unit to "TEST-1-00".

Apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.

Confirm that the fan rotates slow speed after few seconds.

Confirm the operation above at all channels.

Connect the 1.2 kohm/1W resistor between terminals COM and TH-1 of P6401 with no input signal.

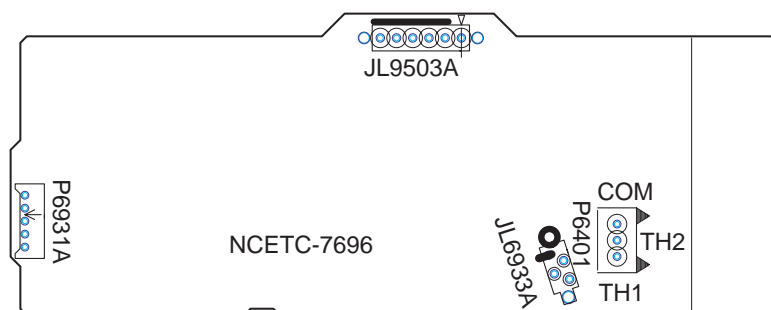
Confirm that the fan rotates slow speed after few seconds.

Next apply the 1kHz -30dBV signal to the left channel of MULTI-CH terminal with no load.

Confirm that the fan rotates high speed after few seconds.

Connect the 1.2 kohm/1W resistors between terminals COM-TH-1 and COM-TH-2 of P6401 respectively with no input signal.

Confirm that the fan rotates high speed after few seconds.



ADJUSTMENT AND CONFIRMATION PROCEDURES 3

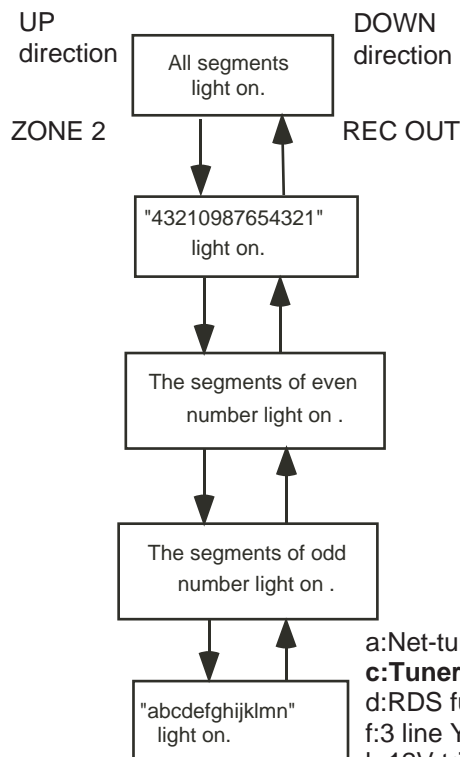
Test Mode

1. Turn POWER button on.
2. Press and hold down CD button, then press DISPLAY and STANDBY/ON buttons.
3. After "TEST" on the FL tube is displayed, press CD button to set the unit to the test mode of FL tube.

Note: VIDEO 1:TEST-1 VIDEO 2:TEST-2
VIDEO 3:TEST-3 VIDEO 4:TEST-4

Test mode of FL tube

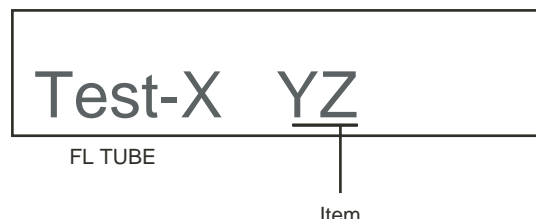
ZONE 2....UP
REC OUT.....DOWN



MDD/MDC _U_N____
MWT/MWR _W_P____
MPA/MGT _E_P____

a:Net-tune function "N":available b:Optical input 4 "4":available
c:Tuner aria "U":USA and Canad "E":Europe "W":Worldwide " _ ":Japan
d:RDS function "R":available e:Video format "P":PAL/NTSC auto "N":NTSC
f:3 line Y/C separation function "3":available g:Video converer function: "C":available
h:12V trigger function "A":A/B/Zone2 "Z":Zone 2 only i:Dimmer interlock function
"D":available j:Zone 2 Lineout function "L":available k:AAC function "A":available
l: Dolby headphone function "H":available m: THX Ultra2:"U":available n:No use
Note: All functions " _ ": No available AAC: Japanese model only

Press POWER button
to finish the test mode of FL tube.



Confirmation of voltage sensor

When connect the resistor 1.2 kohm/1 W between the terminals COM and TH2 of P6401, confirm that the speaker relay turn off.
Note: No input signal.

EXPLODED VIEW-PARTS LIST

Note:
 : Black model only
 <G>: Golden model only
 <D>: 120V model only
 <O>: Except 120V model
 <T>: Worldwide model only
 <GT>: 220-230 V model only
 <A>: Australian model only
 <R>: Chinese model only


REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
1	27111301	Front bracket 	81	27212444	Front panel <D/A>
	27111303	Front bracket <G>		27212445	Front panel <T>
2	27141787	Retainer HP		27212446	Front panel <G> <T/R/GT>
3	838430088	3TTB+8B(BC), Self-tapping screw		27212457	Front panel <G> <A>
4	838130088	3TTB+8B, Self-tapping screw	83	27190470	KGLS-18S, Holder
5	27215364	Decorative frame 	86	260208	Binder
	27215365	Decorative frame <G>	87	260258	Binder
7	28191942B	Clear plate 	97	223025	AC262, Isolated sheet
	28191943A	Clear plate <G>	E821	24502310	D09T-24PG10(EX), Fan
8	28325964A	Knob CL 	F6901,F6902	252199	⚠ 10A-UL, Fuse <D>
	28325964A	Knob CL <G>		252100	⚠ 10A-EAK, Fuse <OT>
9	28198778	Facet	F901	252199	⚠ 10A-UL, Fuse <D/T/R>
	82143010	3P+10FN(BC),Pan head	F902	252077,	⚠ 4A-SE-EAK,
12	28325965	Knob, tuning		252243 or	⚠ 4A-SE-TL250V or
13	28330142	Cap, tuning		252277	⚠ 4A-SE-TL250V, Fuse <O>
16	28135244	Badge 	F903	252075,	⚠ 2.5A-SE-EAK,
	28135245	Badge <G>		252241 or	⚠ 2.5A-SE-TL250V or
28	28325898	Knob, volume 		252275	⚠ 2.5A-SE-TL250V, Fuse <O>
	28325900	Knob, volume <G>	F9501,F9502	252160 or	⚠ 2.5A-UL/T-237 or
29	28325499A	Knob, power <G>		252254	⚠ 2.5A-T/UL-ST2, Fuse <D>
	28325497A	Knob, power 		252075,	⚠ 2.5A-SE-EAK,
30	880016	P3035B, Plastic rivet		252241 or	⚠ 2.5A-SE-TL250V or
31	27255004	CS-1U, Clip		252275	⚠ 2.5A-SE-TL250V, Fuse <O>
33	27100408-1A	Chassis	F9501A	29363313	T2.5AL1.6AL250V, Label, fuse <O>
34	27130870A	Bracket, power transformer	F9503,F9504	252158 or	⚠ 1.6A-UL/T-237 or
35	27190965	Holder		252252	⚠ 1.6A-T/UL-ST2, Fuse <D>
36	27190693A	KGLS-6RF, Holder		252073,	⚠ 1.6A-SE-EAK,
37	27190266	KGLS-12RF, Holder		252239 or	⚠ 1.6A-SE-TL250V or
38	27190164	KGLS-14S, Holder		252273	⚠ 1.6A-SE-TL250V, Fuse <O>
39	830440089	4TTC+8C(BC), Self-tapping screw	P1010	2047151012	NCFC7-151012, Flexible cable
41	28141484	Cushion	P2901	2047191012	NCFC7-191012, Flexible cable
42	27191112	KGPS-6RF, Holder	P6009	27141825	Retainer, bus
43	27141797	Retainer, fan	P6205	27141826	Retainer, bus
44	27150470	Shield plate, fan	P7201	2047312512	NCFC7-312512, Flexible cable
45	838450108	5TTB+10B(BC), Self-tapping screw	P7701	2047051012	NCFC7-051012, Flexible cable
47	27150471	Shield plate	P901	253347VOL	⚠ AS-UC-2, Power supply cord <D>
49	27150474	Shield plate, wire		253348VOL	⚠ AS-CEE-3, Power supply cord <T>
52	27160489A	Heat sink		253349VOL	⚠ AS-CCEE, Power supply cord <R>
53	801606	3SMH10W.SW+15B(CU), Special screw		253307VOL or	⚠ AS-SAA or
54	27141681	Retainer, PC board		253197HIT	⚠ AS-SAA, Power supply cord <A>
55	27141798	Retainer R, heat sink		253306VOL or	⚠ AS-CEE-2 or
56	27141799	Retainer L, heat sink		253233KAW	⚠ AS-CEE-2, Power supply cord <GT>
57	27130869	Bracket, heat sink	Q6050~Q6056	2202822	* 2SC5200-R, Transistor
58	27130745	Bracket		2202823 or	* 2SC5200-O or
61	838430107	3TTB+10S(BC), Self-tapping screw	Q6060~Q6066	2202812	* 2SA1943-R, Transistor
62	28184817-1	Top cover 		2202813 or	* 2SA1943-O or
	28184819-1	Top cover <G>	Q9422A	223026	Isolated sheet
63	29362772	Label, cover	Q9422B	223032	TO-66(1), Isolated washer
64	838440089	4TTB+8C(BC), Self-tapping screw 	T901	2301653	⚠ NPT-1454D, Power transformer <D>
	838240089	4TTB+8C(NI), Self-tapping screw <G>		2301654	⚠ NPT-1454P, Power transformer <P/A>
65	838430088	3TTB+8B(BC), Self-tapping screw 		2301655	⚠ NPT-1454DG, Power transformer <T/R/GT>
	838930088	3TTB+8B(UN), Self-tapping screw <G>	U1	1A956587-1K	NADG-7687-1K, DSP circuit PC board
66	29363226	Label, display			ass'y <D/A>
67	27175319B	Leg		1A956587-1L	NADG-7687-1L, DSP circuit PC board
68	28141494	Cushion			ass'y <T/R/GT>
69	831430088	3TTW+8B(BC), Self-tapping screw	U6	1A956590-1K	NAAF-7690-1K, F/C ch. driver circuit PC
70	27123035	Rear panel <D>			board ass'y <D>
	27123036	Rear panel <T>		1A956590-1L	NAAF-7690-1L, F/C ch. driver circuit PC
	27123037	Rear panel <A>			board ass'y <T>
	27123038	Rear panel <R>		1A956590-1M	NAAF-7690-1M, F/C ch. driver circuit PC
	27123039	Rear panel <GT>			board ass'y <A>
71	838430088	3TTB+8B(BC), Self-tapping screw		1A956590-1N	NAAF-7690-1N, F/C ch. driver circuit PC
72	87643010	W3*10F(BC), Flat washer			board ass'y <R>
73	838930088	3TTB+8B(UN), Self-tapping screw		1A956590-1P	NAAF-7690-1P, F/C ch. driver circuit PC
74	838430068	3TTB+6B(BC), Self-tapping screw			board ass'y <GT>
75	27191130	⚠ Holder, outlet <R>			
77	27300750	⚠ Bushing, cord <D/A/GT>			
	27301927	⚠ Bushing, cord <T/R>			
78	28141467	Cushion			

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CAUTION: Replacement for transistor of mark *, if necessary must be made from the same beta group (Hfe) as the original type.

EXPLODED VIEW-PARTS LIST


REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
U7	1A956591-1K	NAPS-7691-1K, Primary circuit PC board ass'y <D>	U15	1A956599-1L	NAETC-7699-1L, PC board for holder <T>
	1A956591-1L	NAPS-7691-1L, Primary circuit PC board ass'y <T>		1A956599-1M	NAETC-7699-1M, PC board for holder <A>
	1A956591-1M	NAPS-7691-1M, Primary circuit PC board ass'y <A>		1A956599-1N	NAETC-7699-1N, PC board for holder <R>
	1A956591-1N	NAPS-7691-1N, Primary circuit PC board ass'y <R>	U17	1A956599-1P	NAETC-7699-1P, PC board for holder <GT>
	1A956591-1P	NAPS-7691-1P, Primary circuit PC board ass'y <GT>		1A956501-1K	NAETC-7701-1K, PC board for holder <D>
U8	1A956592-1K	NAPS-7692-1K, Bias selector relay PC board ass'y <D>		1A956501-1L	NAETC-7701-1L, PC board for holder <T>
	1A956592-1L	NAPS-7692-1L, Bias selector relay PC board ass'y <T>	U18	1A956501-1M	NAETC-7701-1M, PC board for holder <A>
	1A956592-1M	NAPS-7692-1M, Bias selector relay PC board ass'y <A>		1A956501-1N	NAETC-7701-1N, PC board for holder <R>
	1A956592-1N	NAPS-7692-1N, Bias selector relay PC board ass'y <R>		1A956501-1P	NAETC-7701-1P, PC board for holder <GT>
	1A956592-1P	NAPS-7692-1P, Bias selector relay PC board ass'y <GT>	U21	1A956502-1K	NAETC-7702-1K, PC board for holder <D>
U9	1A956593-1L	NASW-7693-1L, Power switch PC board ass'y <T>		1A956502-1L	NAETC-7702-1L, PC board for holder <T>
	1A956593-1N	NASW-7693-1N, Power switch PC board ass'y <R>		1A956502-1M	NAETC-7702-1M, PC board for holder <A>
	1A956593-1P	NASW-7693-1P, Power switch PC board ass'y <GT>	U22	1A956502-1N	NAETC-7702-1N, PC board for holder <R>
U10	1A956594-1K	NAETC-7694-1K, F/C ch. Speaker terminal PC board ass'y <D>		1A956502-1P	NAETC-7702-1P, PC board for holder <GT>
	1A956594-1L	NAETC-7694-1L, F/C ch. Speaker terminal PC board ass'y <T>	U23	1A956506-1K	NAAF-7706-1K, Power amplifier PC board ass'y <D>
	1A956594-1M	NAETC-7694-1M, F/C ch. Speaker terminal PC board ass'y <A>		1A956506-1L	NAAF-7706-1L, Power amplifier PC board ass'y <O>
	1A956594-1N	NAETC-7694-1N, F/C ch. Speaker terminal PC board ass'y <R>		1A956507-1K	NAAF-7707-1K, Surround ch. driver circuit PC board ass'y <D>
	1A956594-1P	NAETC-7694-1P, F/C ch. Speaker terminal PC board ass'y <GT>	U29	1A956507-1L	NAAF-7707-1L, Surround ch. driver circuit PC board ass'y <O>
U11	1A956595-1K	NAETC-7695-1K, Surround ch. Speaker terminal PC board ass'y <D>		1A956508-1K	NAPS-7708-1K, Power supply PC board ass'y <D>
	1A956595-1L	NAETC-7695-1L, Surround ch. Speaker terminal PC board ass'y <T>	U31	1A956508-1L	NAPS-7708-1L, Power supply PC board ass'y <O>
	1A956595-1M	NAETC-7695-1M, Surround ch. Speaker terminal PC board ass'y <A>		1A956514-1K	NAETC-7714-1K, Thermal detector PC board ass'y <D>
	1A956595-1N	NAETC-7695-1N, Surround ch. Speaker terminal PC board ass'y <R>		1A956514-1L	NAETC-7714-1L, Thermal detector PC board ass'y <O>
	1A956595-1P	NAETC-7695-1P, Surround ch. Speaker terminal PC board ass'y <GT>	U32	1A956518-1K	NAAF-7718-1K, Pre-amplifier PC board ass'y <D>
U12	1A956596-1K	NAPS-7696-1K, Fan drive circuit PC board ass'y <D>		1A956518-1L	NAAF-7718-1L, Pre-amplifier PC board ass'y <T/R/GT>
	1A956596-1L	NAPS-7696-1L, Fan drive circuit PC board ass'y <T>		1A956518-1M	NAAF-7718-1M, Pre-amplifier PC board ass'y <A>
	1A956596-1M	NAPS-7696-1M, Fan drive circuit PC board ass'y <A>	U33	1A956519-1K	NAAF-7719-1K, Audio terminal PC board ass'y <D>
	1A956596-1N	NAPS-7696-1N, Fan drive circuit PC board ass'y <R>		1A956519-1L	NAAF-7719-1L, Audio terminal PC board ass'y <T/R/GT>
	1A956596-1P	NAPS-7696-1P, Fan drive circuit PC board ass'y <GT>		1A956519-1M	NAAF-7719-1M, Audio terminal PC board ass'y <A>
U13	1A956597-1K	NAPS-7697-1K, Thermal detector PC board ass'y <D>	U35	1A956520-1K	NAAF-7720-1K, Video terminal PC board ass'y <D>
	1A956597-1L	NAPS-7697-1L, Thermal detector PC board ass'y <T>		1A956520-1L	NAAF-7720-1L, Video terminal PC board ass'y <T/R/GT>
	1A956597-1M	NAPS-7697-1M, Thermal detector PC board ass'y <A>		1A956520-1M	NAAF-7720-1M, Video terminal PC board ass'y <A>
	1A956597-1N	NAPS-7697-1N, Thermal detector PC board ass'y <R>	U36	1A956528-1K	NAAR-7728-1K, Main connector PC board ass'y <D>
	1A956597-1P	NAPS-7697-1P, Thermal detector PC board ass'y <GT>		1A956528-1L	NAAR-7728-1L, Main connector PC board ass'y <T/R/GT>
				1A956528-1P	NAAR-7728-1P, Main connector PC board ass'y <A>
			U37	1A956529-1K	NAVD-7729-1K, Composite video PC board ass'y <D>
				1A956529-1L	NAVD-7729-1L, Composite video PC board ass'y <T/R/GT>
				1A956529-1P	NAVD-7729-1P, Composite video PC board ass'y <A>
				1A956530-1K	NAVD-7730-1K, S video PC board ass'y <D>
				1A956530-1L	NAVD-7730-1L, S video PC board ass'y <T/R/GT>
				1A956530-1P	NAVD-7730-1P, S video PC board ass'y <A>

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EXPLODED VIEW-PARTS LIST

REF NO.	PART NO.	DESCRIPTION	REF NO.	PART NO.	DESCRIPTION
U38	1A956531-1K	NAVD-7731-1D, Component video PC board ass'y <D>	U46	1A956549-1A	NAETC-7749-1A, Headphone terminal PC board ass'y <D>
	1A956531-1L	NAVD-7731-1L, Component video PC board ass'y <T/R/GT>		1A956549-1B	NAETC-7749-1B, Headphone terminal PC board ass'y <A>
	1A956531-1P	NAVD-7731-1P, Component video PC board ass'y <A>		1A956549-1C	NAETC-7749-1C, Headphone terminal PC board ass'y <G><A/GT>
U39	1A956533-1K	NAETC-7733-1K, RI terminal PC board ass'y <D>	U47	1A956549-1D	NAETC-7749-1D, Headphone terminal PC board ass'y <T>
	1A956533-1L	NAETC-7733-1L, RI terminal PC board ass'y <T/R/GT>		1A956549-1E	NAETC-7749-1E, Headphone terminal PC board ass'y <G><T/R>
	1A956533-1P	NAETC-7733-1P, RI terminal PC board ass'y <A>		1A956521-1K	NAETC-7721-1K, Front video PC board ass'y <D>
U40	1A956534-1K	NAETC-7734-1K, Connector PC board ass'y <D>	U48	1A956521-1L	NAETC-7721-1L, Front video PC board ass'y <T/R/GT>
	1A956534-1L	NAETC-7733-1L, Connector PC board ass'y <T/R/GT>		1A956521-1M	NAETC-7721-1M, Front video PC board ass'y <A>
	1A956534-1P	NAETC-7733-1P, Connector PC board ass'y <A>		1A956522-1K	NAETC-7722-1K, Front opto. input PC board ass'y <D>
U41	1A956524-1K	NAETC-7724-1K, PC board for holder <D>	U50	1A956522-1L	NAETC-7722-1L, Front opto. input PC board ass'y <T/R/GT>
	1A956524-1L	NAETC-7724-1L, PC board for holder <T/R/GT>		1A956522-1M	NAETC-7722-1M, Front opto. input PC board ass'y <A>
	1A956524-1M	NAETC-7724-1M, PC board for holder <A>		1A956547-1A	NAETC-7747-1A, Standby switch PC board ass'y <D>
U42	1A956523-1K	NAETC-7723-1K, PC board for holder <D>	U51	1A956547-1B	NAETC-7747-1B, Standby switch PC board ass'y <A>
	1A956523-1L	NAETC-7723-1L, PC board for holder <T/R/GT>		1A956547-1C	NAETC-7747-1C, Standby switch PC board ass'y <G><A/GT>
	1A956523-1M	NAETC-7723-1M, PC board for holder <A>		1A956547-1D	NAETC-7747-1D, Standby switch PC board ass'y <T>
U44	1A956546-1A	NADIS-7746-1A, Display circuit PC board ass'y <D>	U51	1A956547-1E	NAETC-7747-1E, Standby switch PC board ass'y <G><T/R>
	1A956546-1B	NADIS-7746-1B, Display circuit PC board ass'y <A>		240138A or 240134A	ENG06501QR or TFCE1U114B, Tuner pack <D>
	1A956546-1C	NADIS-7746-1C, Display circuit PC board ass'y <G><A/GT>		240139A or 240135	ENG07501QR or TFCE1E512A, Tuner pack <O>
U45	1A956546-1D	NADIS-7746-1D, Display circuit PC board ass'y <T>			
	1A956546-1E	NADIS-7746-1E, Display circuit PC board ass'y <G><T/R>			
	1A956548-1A	NAETC-7748-1A, Volume PC board ass'y <D>			
	1A956548-1B	NAETC-7748-1B, Volume PC board ass'y <A>			
	1A956548-1C	NAETC-7748-1C, Volume PC board ass'y <G><A/GT>			
	1A956548-1D	NAETC-7748-1D, Volume PC board ass'y <T>			
	1A956548-1E	NAETC-7748-1E, Volume PC board ass'y <G><T/R>			

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PACKING VIEW-PARTS LIST

REF NO.	PART NO.	DESCRIPTION
101	29092063A	Pad
103	29100153	1020x720, Protection bag
104	29110149	Tape, cellophane
105	29110148	PP tape
111	29053947A	Carton box <D>
	29053948A	Carton box <A/T/C>
	29053949A	Carton box <G>
112	29363214	Label EAN <A/T>
	29363215	Label EAN <G>
	29363216	Label UPC <D/C>
121	29100097-1A	350*250, Polybag
123	29343417A	Instruction manual E
124	29343418A	Instruction manual FS <C>
	29343419	Instruction manual CT/CS <T/R/GT>
125	29343421	Instruction manual, digits <D>
126	29363059A	Label, speaker cable
128	29365090A	Warranty card <D>
129	29355420A	Instruction sheet, errata
130	29355421	Instruction sheet FS, errata <C>
	29355422	Instruction sheet CTCS, errata <T/R/GT>
131	24140510	RC-510M, Remote controller
135	3010054	UM-3, Battery
136	292142	FM antenna <D>
	292115	FM antenna <O>
137	25065462	YAE21-0237, Antenna adapter <A/T/R/GT>
138	25056005	CV-K-1, Conversion plug <T>
139	232140	NMA-3057, AM loop antenna

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PRINTED CIRCUIT BOARD-PARTS LIST 1

DSP circuit PC board (NADG-7687-1K/1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q100-Q102	22241448R2	NJM4580M-D
Q103	22241522R2	AK4528VF
Q120	22274040ER2TO	TC74VHC4040FT
Q121	22274000GR2TO	TC74VHC700AFT
Q130	222740046R2	74HCU04F
Q131	22241633R3	AK4114VQ
Q170	22278028DR2JR	NJM2391DL1-285
Q171	22278033DR2NE or	MPC2933T or
	22278033DR2JR	NJM2391DL1-33
Q700	22241846R3	MB86D41PFV
Q7000	22241923R3	M30624MGA-B09FP
Q701,Q751	22274074ER2TO or	TC74VHC74FT or
	22274074IR2TI	SN74AHC74PWR
Q703	22241847R3	MB86344BPFV
Q705,Q706	22241612R2 or	CY7C1019BV33-15VCT or (NSP)
	22241887R2	CY7C1019CV33-15VCT
Q7100,Q7101	22274541ER2TO or	TC74VHC541FT or
	22274541IR2TI	SN74AHC541PWR
Q7102	222740077R2TO	TC74HCT7007AF
Q800	22241521R3	AK4356VQ
Q801-Q804	22241449R2,	NJM5532M-D,
	22241409R2 or	BA15532F or
	22241472R2	NJM2114M-D
	Transistor	
Q7001	2214490R2 or	RN1404 or
	2216210R2	KRC104S
	Photo couplers	
U100-U102	24120101	TORX179L
U104	24120102	TOTX179L
	Diodes	
D102-D109	223234R2 or	1SS352 or
D7000-D7004	223269R2	1SS355
D7005	224660624R2,	HZU6.2B,
	224490620R2or	UDZ6.2B or
	224550620R2	UDZS6.2B
	Oscillators	
X130	3010331R2	HC-49/U03C24.576MHz,Crystal
X700	3010368R2	XTL-13.5M,Crystal
X7000	3010329R2	CSTCV16.00MXJ0C,Ceramic
X751	3010368R2	XTL-13.5M,Crystal
	Coils	
L101,L102	231237M022R2 or	NCH-1471 or
L131,L133	233533M022R2	NCH-1587-022M
L130,L136	231237K470R2 or	NCH-1479 or
L170,L753	233533K470R2	NCH-1587-470K
L132,L134	230958R1	BK1608LM182-T
L135,L701	231237M022R2 or	NCH-1471 or
L751	233533M022R2	NCH-1587-022M
L7000	231237K220R2 or	NCH-1477 or
	233533K220R2	NCH-1587-220K
L801,L802	231237M022R2 or	NCH-1471 or
	233533M022R2	NCH-1587-022M
R124,R125	230959R1	BK1608LL241-T
R133-R135	230958R1	BK1608LM182-T
	Capacitors	
C100,C101	356744709R2	47uF,16V, Elect., chip
C102,C103	356724709R2	47uF,6.3V, Elect., chip
C108,C110	356724709R2	47uF,6.3V, Elect., chip
C113,C114	373021524R2	1500pF+/-5%,50V,Plastic
C116,C119	356723319R2	330uF,6.3V, Elect., chip
C141,C148	356724709R2	47uF,6.3V, Elect., chip

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C150	356741009R2	10uF,16V, Elect., chip
C152	356724709R2	47uF,6.3V, Elect., chip
C157	3567A1019R2	100uF,4V, Elect., chip
C159	356784799R2	0.47uF,50V, Elect., chip
C176	356744709R2	47uF,16V, Elect., chip
C177,C178	3567A1019R2	100uF,4V, Elect., chip
C7000	3000078 or	DX-5R5L104 or
C7000 or	3000121	SCDA5R5104V, Super
C7002,C7003	356721019R2	100uF,6.3V, Elect., chip
C7004	356780109R2	1uF,50V, Elect., chip
C7005	356721019R2	100uF,6.3V, Elect., chip
C719,C720	3567A1019R2	100uF,4V, Elect., chip
C764-C766	3567A1019R2	100uF,4V, Elect., chip
C802,C807	356723319R2	330uF,6.3V, Elect., chip
C819,C820	373024724R2	4700pF+/-5%,50V,Plastic
C821,C822	373024724R2	4700pF+/-5%,50V,Plastic <D/A>
C823,C824	373024724R2	4700pF+/-5%,50V,Plastic
C825	373024724R2	4700pF+/-5%,50V,Plastic <D/A>
C826	373043334R2	0.033uF+/-5%,16V,Plastic
C827-C830	373026814R2	680pF+/-5%,50V,Plastic
C831-C834	373026814R2	680pF+/-5%,50V,Plastic <D/A>
	373023314R2	330pF+/-5%,50V,Plastic <T/R/GT>
C835-C838	373026814R2	680pF+/-5%,50V,Plastic
C839,C840	373026814R2	680pF+/-5%,50V,Plastic <D/A>
	373023314R2	330pF+/-5%,50V,Plastic <T/R/GT>
C841,C842	373041534R2	0.015uF+/-5%,16V,Plastic
C847,C848	356744709R2	47uF,16V, Elect., chip
C849,C850	356741019R2	100uF,16V, Elect., chip
C851-C854	356744709R2	47uF,16V, Elect., chip
	Resistors	
R782	43474056004R1	RM0KJ560X04,Array
R787-R791	43474056004R1	RM0KJ560X04,Array
	Terminal	
P101	25045666	NPJ-3PDO465
	Sockets	
P7002	25051233	NSCT-8P1023
P7004	25051527	NSCT-16P1314
P7003,P800	25051241	NSCT-20P1031
P7701A	25052277R2	NSCT-5P2174
	Plugs	
P100	25055133	NPLG-3P117
P7000	25056056	NPLG-8P1006
	Cushion	
Q800A	28141445	(DAC)

F/C ch.driver circuit PC board (NAAF-7690-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5000-Q5002	2215896,	* KTC3200-BL,
Q5010-Q5012	2210755,	* 2SC1775A-E,
	2210756 or	* 2SC1775A-F or
	2211733	* 2SC1845-E
Q5020-Q5022	2215896,	KTC3200-BL,
	2210755,	2SC1775A-E,
	2210756 or	2SC1775A-F or
	2211733	2SC1845-E
Q5030-Q5032	2215844,	KTA1024-Y,
Q5040-Q5042	2211353,	2SA949-O,
	2211354 or	2SA949-Y or
	2215843	KTA1024-O
Q5050-Q5052	22202094 or	2SA1360-Y or
	22202093	2SA1360-O
Q5080-Q5082	22202104 or	2SC3423-Y or
	22202103	2SC3423-O

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CAUTION: Replacement for transistor of mark *, if necessary
 must be made from the same beta group (H_{FE}) as
 the original type.

PRINTED CIRCUIT BOARD-PART LIST 2

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R5130~R5132	415478214	820ohm+/-5%,1/4W,NF carbon
R5140~R5142	415478214	820ohm+/-5%,1/4W,NF carbon
R5150~R5152	443521034	10ohm+/-5%,1/2W,Metal oxide
R5160~R5162	415471024	1kohm+/-5%,1/4W,NF carbon
R5170~R5172	415478214	820ohm+/-5%,1/4W,NF carbon
R5180~R5182	415473304	33ohm+/-5%,1/4W,NF carbon
R5230~R5232	415471504	15ohm+/-5%,1/4W,NF carbon
R5240~R5242	415471504	15ohm+/-5%,1/4W,NF carbon
R5280~R5282	443521034	10ohm+/-5%,1/2W,Metal oxide
R5300~R5302	415476804	68ohm+/-5%,1/4W,NF carbon
R5330~R5332	415476804	68ohm+/-5%,1/4W,NF carbon

	Terminals	
P5100,P5101	25060302	NTM-1P233(M1969)
	Sockets	
P6000A~P6002A	25052287	NSCT-4P2184
P6010A	25052289	NSCT-6P2186
P6011A,P6012A	25052287	NSCT-4P2184
	Radiators	
Q5050A,Q5051A	27160517	RAD-177
Q5052A	27160517	RAD-177
	Screws	
Q5050B,Q5051B	82143010	3P+10FN(BC),Pan head
Q5052B	82143010	3P+10FN(BC),Pan head
Q5080B~Q5082B	82143010	3P+10FN(BC),Pan head

Primary circuit PC board (NAPS-7691-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q921	2215864, 2212115, 2213284 or 2213285	KTC3199-GR, 2SC2458-GR, 2SC1740S-R or 2SC1740S-S
	Diodes	
D921~D924	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D925	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	Power transformer	
T902	2300670A	⚠ NPT-1111D <D>
T902	2300672A	⚠ NPT-1111DG <T/R/GT>
T902	2300671A	⚠ NPT-1111P <A>
	Capacitors	
C901	3500196S	⚠ RE275V-103M,IS
C902	33000030	⚠ DE1307E472M-KH,IS <T/R/GT>
C922	394662217	220uF,35V,Elect.
	Resistors	
R901	4000206S or 431533355	⚠ RD1/2SPH-3.3M or ⚠ RC1/2GFKUL-3.3M,Solid <D>
R924	443521804	18ohm+/-5%,1/2W,Metal oxide
	Fuseholders	
F901A,F901B	25052133	⚠ NSCT-1P2031<D/T/R/GT>
F902A,F902B	25052133	⚠ NSCT-1P2031<A/T/R/GT>
F903A,F903B	25052133	⚠ NSCT-1P2031<A/T/R/GT>
	Relay	
RL901	25065584 or 25065516	⚠ NRL-1P10A-DC12-140 or ⚠ NRL-1P10A-DC12-097
	Switch	
S902	25065437	⚠ NSS-22157P <T/R/GT>
	Outlet	
P902	25051126	⚠ NSCT-4P913 <D>
P902	25051125	⚠ NSCT-4P912 <T/GT>
P902	25052115	⚠ NSCT-2P2013 <A>
P902	25052664	⚠ NSCT-2P2560 <R>
	Socket	
JL931B	25050267	NSCT-3P95
	Plugs	
P901A,P911	25055675 or 25056028	NPLG-2P631 or NPLG-2P0978
P912	25055675 or 25056028	NPLG-2P631 or NPLG-2P0978 <T/R/GT>

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Bias selector relay PC board (NAPS-76921-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D6901,D6902	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D6903,D6904	22380309 or 22380044	D15XB60 or RBV-1506
D6906	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	Capacitors	
C6903	374722234	0.022uF+/-5%,50V,Plastic film
C6908~C6911	374733344	0.33uF+/-5%,100V,Plastic film
C6915,C6916	374733344	0.33uF+/-5%,100V,Plastic film

	Fuseholders	
F6901A,F6901B	25052133	NSCT-1P2031
F6902A,F6902B	25052133	NSCT-1P2031
	Relays	
RL6901,RL6902	25065584 or 25065516	NRL-1P10A-DC12-140 or NRL-1P10A-DC12-097
	Socket	
JL6953B	25050268	NSCT-4P96
	Plugs	
P6951	25055172	NPLG-9P156
P6952A	25055168	NPLG-5P152
P9505A	25055600	NPLG-2P568

	Radiator	
D6903A	27160499	RAD-164
	Screws	
D6903B,D6904B	82143010	3P+10FN(BC),Pan head
	Washers	
D6903C,D6904C	871430	SW-3(BC),Spring
	Tape	
D6903D	29110083	Cloth
	Label	
F6902C	29362801	T10AL250V <O>
	Clamper	
P6907	260224	CP-1S

Power switch PC board (NASW-7693-1L/1N/1P)

(Except U.S.A. and Australian models)

CIRCUIT NO.	PART NO.	DESCRIPTION
S906	25035636	⚠ NPS-111-L590P,Power switch

F/C ch. speaker terminal PC board (NAETC-7694-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D6600	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	Coils	
L6800~L6802	231176S	S-1.3C <O>
	Capacitors	
C6830~C6832	374731034	0.01uF+/-5%,100V,Plastic film
C6840~C6842	374731024	1000pF+/-5%,100V,Plastic film <O>
	Resistors	
R6830~R6832	453630824	8.2ohm+/-5%,1W,Metal
	Terminal	
P6800	25060337 25060338	NTM-6PDMN268 <D> NTM-6PDMN269 <O>
	Relays	
RL6600,RL6602	25065563, 25065517 or 25065586	NRL-2P5A-DC24-129, NRL-2P5A-DC24-098 or NRL-2P5A-DC24-142
	Plugs	
P6007A	25055167	NPLG-4P151
P6810D	25055166	NPLG-3P150
P6830	25055734	NPLG-3P690

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD-PART LIST 3

Surround ch. speaker terminal PC board (NAETC-7695-1K/1L/1M/1N/1P)		
CIRCUIT NO.	PART NO.	DESCRIPTION
D6603,D6605	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
L6803~L6806	Coils	
	231176S	S-1.3C <O>
C6833~C6836	Capacitors	
	374731034	0.01uF+/-5%,100V,Plastic film
C6843~C6846	374731024	1000pF+/-5%,100V,Plastic film <O>
R6833~R6836	Resistors	
	453630824	8.2ohm+/-5%,1W,Metal
P6802	Terminal	
	25060339	NTM-8PDMN270 <D>
	25060340	NTM-8PDMN271 <O>
RL6603,RL6605	Relays	
	25065563,	NRL-2P5A-DC24-129,
	25065517 or	NRL-2P5A-DC24-098 or
	25065586	NRL-2P5A-DC24-142
P6008A P6812E P6832	Plugs	
	25055169	NPLG-6P153
	25055168	NPLG-5P152
	25055734	NPLG-3P690

Fan drive circuit PC board (NAETC-7696-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
Q5601 Q5602,Q5603 Q5607 Q6701,Q6702	Transistors	
	2212445	2SK365-GR
	2215864,	KTC3199-GR,
	2212115,	2SC2458-GR,
	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
	2215820,	KRC104M,
	221282 or	DTC144ES or
	2213560	RN1204
	2203595,	KTC2026-GR,
Q5606	2202705,	2SD2394-E,
	2202706 or	2SD2394-F or
	2203594	KTC2026-Y
	2215995,	KTA1267-GR,
	2212125,	2SA1048-GR,
	2213354 or	2SA933S-R or
	2213355	2SA933S-S
	Diodes	
	223163,	1SS133,
	223205 or	1SS270A or
D5601 D5604~D5607 D5609,D5610 D5602,D5603	223222	WG713A
	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D5611 D6701,D6702	224471303	MTZJ13C
	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
D6703,D6704	224470512	MTZJ5.1B
	Capacitors	
C5602~C5604	394661017	100uF,35V,Elect.
C6701,C6706	394621017	100uF,6.3V,Elect.
C6704	394680107	1uF,50V,Elect.
R5612 R5613 R5616	Resistors	
	415471014	100ohm+/-5%,1/4W,NF carbon
	453530474	4.7ohm+/-5%,1/2W,Metal
	441721224	1.2kohm+/-5%,2W,Metal oxide
JL6933A JL9503A P6931A P7701B	Sockets	
	25051088	NSCT-4P875
	25051110	NSCT-6P897
	25051230	NSCT-5P1020
P6401	25052201,	NSCT-5P2098,
	25051271,	NSCT-5P1060,
	25051812 or	NSCT-5P1599 or
	25052014	NSCT-5P1801
P6401	Plug	
	25055042	NPLG-3P32

Thermal detector PC board (NAETC-7697-1K/1L/1M/1N/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
R5651 R5653	Thermistors	
	4000153	PTH9M04BF222TS2F333
	4000150	PTH9M04BC222TS2F333 <D>
JL6933B	4000151	PTH9M04BD222TS2F333 <O>
	Socket	
Power amplifier PC board (NAAF-7706-1K/1L)	25051088	NSCT-4P875
	Transistors	
Q6000~Q6006 Q6010~Q6016 Q6020~Q6022	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
	2215995,	KTA1267-GR,
Q6023~Q6026	2212125,	2SA1048-GR,
	2213354 or	2SA933S-R or
	2213355	2SA933S-S
Q6030~Q6032	2211455 or	2SA1015-GR or
	2211454	2SA1015-Y
Q6033~Q6036	2211634 or	2SC2229-Y or
	2211633	2SC2229-O
Q6040~Q6042	2203434 or	KTD2061-Y or
	2203010	2SC5171
Q6043~Q6046	2211354 or	2SA949-Y or
	2211353	2SA949-O
Q6070~Q6076	2203424 or	KTB1369-Y or
	2203000	2SA1930
Q6090~Q6092	2214984 or	2SC2631-R or
	2214985	2SC2631-S
Q6100~Q6102	2203424 or	KTB1369-Y or
	2203000	2SA1930
Q6703 Q6703 or Q6703 or Q6703 or	2203434 or	KTD2061-Y or
	2203010	2SC5171
L6000~L6002 L6010~L6012	2215885,	KTA1268-GR,
	2211792,	2SA992-F,
C6000~C6006 C6020~C6022 C6023~C6026 C6030~C6036 C6510~C6514 C6520~C6523 C6531,C6532 C6901,C6902	2211793 or	2SA992-E or
	2215886	KTA1268-BL
R6040~R6046 R6070~R6072 R6073~R6076 R6080~R6082 R6083~R6086 R6090~R6092 R6093~R6096 R6100~R6106	Cores	
	5597-45502	Ferrite
R6130~R6136 R6230~R6232 R6240~R6242 R6250~R6252 R6260~R6262 R6270~R6272 R6280~R6282 R6510~R6514 R6520~R6523	5597-45502	Ferrite
	Capacitors	
P5100A,P5101A	374721024	1000pF+/-5%,50V,Plastic film
	394500477	4.7uF,160V,Elect.
P5100A,P5101A	394684707	47uF,50V,Elect.
	374734734	0.047uF+/-5%,100V,Plastic film
P5100A,P5101A	394690477	4.7uF,100V,Elect.
	394690477	4.7uF,100V,Elect.
P5100A,P5101A	374721034	0.01uF+/-5%,50V,Plastic film
	3504373	15000uF,71V,Elect.
P5100A,P5101A	Resistors	
	5210258	N06HR1KBC,Trimming
P5100A,P5101A	415476804	68ohm+/-5%,1/4W,NF carbon
	415471814	180ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	443521004	10ohm+/-5%,1/2W,Metal oxide
	415470224	2.2ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	443521004	10ohm+/-5%,1/2W,Metal oxide
	415470224	2.2ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	4000201,	RF-5EGKR22,
	4000132 or	RG55 0.22 or
P5100A,P5101A	4500245	BPR55FK0.22,Metal plate
	453630824	8.2ohm+/-5%,1W,Metal
P5100A,P5101A	415471214	120ohm+/-5%,1/4W,NF carbon
	415471214	120ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	415471804	18ohm+/-5%,1/4W,NF carbon
	415471804	18ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	415470224	2.2ohm+/-5%,1/4W,NF carbon
	415470224	2.2ohm+/-5%,1/4W,NF carbon
P5100A,P5101A	453532294	0.22ohm+/-5%,1/2W,Metal
	453532294	0.22ohm+/-5%,1/2W,Metal
P5100A,P5101A	Terminals	
	25060301	NTM-1P232(M1700)

Note:

: Black model only

<G>: Golden model only

<D>: 120V model only

<O>: Other models except 120V model

<T>: Worldwide model only

<GT>: 220-230 V model only

<A>: Australian model only

<R>: Chinese model only

PRINTED CIRCUIT BOARD-PART LIST 4

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets			Terminals	
P5003	2009990666UL	NSAS-12P0929	P5201,P5202	25060302	NTM-1P233(M1969)
P5004	2009990745UL	NSAS-16P1040		Sockets	
P6007	2009990759UL	NSAS-6P1070	P6003A~P6006A	25052287	NSCT-4P2184
P6008	2009990760UL	NSAS-8P1071	P6013A-P6016A	25052289	NSCT-6P2186
P6810	2009990668UL	NSAS-6P0931			
P6812	2009990669UL	NSAS-6P0932			
P6952	2009990671UL	NSAS-6P0934			
	Plugs			Power supply PC board (NAPS-7708-1K/1L)	
P6000~P6006	25056009	NPLG-4P0959		CIRCUIT NO.	PART NO.
P6010,P6013	25056011	NPLG-6P0961			DESCRIPTION
P6011,P6012	25056009	NPLG-4P0959	Q9401	222780185JRC	NJM78M18FA
P6014~P6016	25056009	NPLG-4P0959	Q9411	222790185JRC	NJM79M18FA
P6080~P6086	25055038	NPLG-2P29	Q9421	222780053JRC	NJM78L05A
P6931	25055701	NPLG-5P657	Q9431	222780054JRC	NJM7805FA
	Bar		Q9441	222790054JRC	NJM7805FA
P6201	27141850	BBL50		Transistors	
	Holder		Q6901	2215864,	KTC3199-GR,
P6214	27190608-1	UA-0 V0		2212115,	2SC2458-GR,
	Clampers			2213284 or	2SC1740S-R or
P6211~P6213	260226	CP-2S	Q9422	2213285	2SC1740S-S
P6301~P6303	260224	CP-1S		2202314 or	2SA1726-Y or
P6305~P6307	260224	CP-1S	Q9501	2202315	2SA1726-P
	Radiators			2211644	2SA965-Y
Q6090A~Q6092A	27160486	RAD-155		Diodes	
	Screws		D6000~d6006	223163,	1SS133,
Q6090B~Q6092B	82143010	3P+10FN(BC),Pan head		223205 or	1SS270A or
Q6100B~Q6102B	82143010	3P+10FN(BC),Pan head		223222	WG713A
			D9501,D9502A	22380285,	RS403M,
				22380022 or	RBV402 or
				22380271	D3SBA20
			D9506,D9507	22380260,	RL1N4003,
				22380032 or	1SR139-100 or
				22380035	GP104003E
			D9508	224472704	MTZJ27D
				Capacitors	
			C9401,C9402	394561007	10uF,35V,Elect.
			C9411,C9412	394561007	10uF,35V,Elect.
			C9421,C9422	394561007	10uF,35V,Elect.
			C9431,C9432	394561007	10uF,35V,Elect.
			C9441,C9442	394561007	10uF,35V,Elect.
			C9501~C9504	374723344	0.33uF+/-5%,50V,Plastic film
			C9505	394662227S	2200uF,35V,Elect.
			C9506	394661027S	1000uF,35V,Elect.
			C9507	394682217	220uF,50V,Elect.
			C9508	394646827S	6800uF,16V,Elect.
			C9509	394651027S	1000uF,25V,Elect.
			C9510	394672217	220uF,63V,Elect.
			C9513	374723344	0.33uF+/-5%,50V,Plastic film
			C9521~C9523	374722234	0.022uF+/-5%,50V,Plastic film
				Resistors	
			R9403	453530224	2.2ohm+/-5%,1/2W,Metal
			R9413	453530824	8.2ohm+/-5%,1/2W,Metal
			R9421~R9424	441620824	8.2ohm+/-5%,1W,Metal oxide
			R9425	415473304	33ohm+/-5%,1/4W,NF carbon
			R9431,R9433	441621004	10ohm+/-5%,1W,Metal oxide
			R9442,R9444	441622204	22ohm+/-5%,1W,Metal oxide
			R9506	415472204	22ohm+/-5%,1/4W,NF carbon
			R9510	415470224	2.2ohm+/-5%,1/4W,NF carbon
			R9521	453530334	3.3ohm+/-5%,1/2W,Metal
				Fuseholders	
			F9501A,F9501B	25052133	NSCT-1P2031
			F9502A,F9502B	25052133	NSCT-1P2031
			F9503A,F9503B	25052133	NSCT-1P2031
			F9504A,BF9504	25052133	NSCT-1P2031
				Sockets	
			JL6953A	25051108	NSCT-4P895
			JL7201B	25050281	NSCT-4P109
			JL9503B	25050270	NSCT-6P98
			JL9504A	25051088	NSCT-4P875
				Plugs	
			P9501	25055138	NPLG-8P122
			P9502A	25055156	NPLG-12P140
				Labels	
			F9501C,F9503C	29361747	T2.5AL250V <O>

Note:

: Black model only

<G>: Golden model only

<D>: 120V model only

<O>: Other models except 120V model

<T>: Worldwide model only

<GT>: 220-230 V model only

<A>: Australian model only

<R>: Chinese model only

CAUTION: Replacement for transistor of mark *, if necessary must be made from the same beta group (HFE) as the original type.

PRINTED CIRCUIT BOARD-PART LIST 5

Thermal detector PC board (NAETC-7714-1K/1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Thermistors	
R5652	4000153	PTH9M04BF222TS2F333
R5654	4000150	PTH9M04BC222TS2F333 <D>
	4000151	PTH9M04BD222TS2F333 <O>
	Socket	
JL9504B	25051088	NSCT-4P875

Pre. amplifier PC board (NAAF-7718-1K/1L/1M)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3860~Q3862	22241383R2 or 22240489R1NE	NJM4565M-D or MPC4570G2-T1(MST) <T/R/GT>
Q4000	22241383R2 or 22240489R1NE	NJM4565M-D or MPC4570G2-T1(MST)
Q4210~Q4213	22240943R2	TC9163AF
Q4100	22241221R2	TC9164AF
Q4200~Q4203	22241640R2	TC94A07F
Q4400,Q4401	22241451R9	NJU7306G
Q4410,Q4411	22241450R2 or 22241567R2	NJM2082M-D or NJM2082M
Q4800	22241383R2 or 22240489R1NE	NJM4565M-D or MPC4570G2-T1(MST)
	Transistors	
Q4420~Q4422	2216756R2	2SA1163-BL
Q4600~Q4607	2215410R2	RN1441
Q4610~Q4617	2215410R2	RN1441
Q4810~Q4815	2215410R2	RN1441
	Diode	
D4540	224490510R2	UDZ5.1B
	Capacitors	
C3600~C3607	374723315	330pF+/-10%,50V,Plastic film
C3610~C3617	393381007	10uF,50V,Elect.
C3800,C3802	393384707	47uF,50V,Elect.
C3803~C3806	393381007	10uF,50V,Elect.
C3807	354724719	470uF,6.3V,Elect.
C3820,C3821	393384707	47uF,50V,Elect.
C3840,C3841	393381007	10uF,50V,Elect.
C3862,C3863	374721224	1200pF+/-5%,50V,Plastic film
C3864,C3865	374722724	2700pF+/-5%,50V,Plastic film
C4010,C4011	393381007	10uF,50V,Elect.
C4120,C4121	354742219 or 394642217	220uF,16V,Elect. or 220uF,16V,Elect.
C4200~C4207	393381007	10uF,50V,Elect.
C4217	374721024	1000pF+/-5%,50V,Plastic film
C4220~C4227	393380107	1uF,50V,Elect.
C4230~C4237	393384707	47uF,50V,Elect.
C4320~C4325	354742219 or 394642217	220uF,16V,Elect. or 220uF,16V,Elect.
C4920,C4921	394642217	220uF,16V,Elect.
C4410~C4412	374721015	100pF+/-10%,50V,Plastic film
C4417	374721024	1000pF+/-5%,50V,Plastic film
C4420~C4422	393384707	47uF,50V,Elect.
C4430~C4432	374721044	0.1uF+/-5%,50V,Plastic film
C4440~C4442	374721534	0.015uF+/-5%,50V,Plastic film
C4540	354721019 or 394621017	100uF,6.3V,Elect. Or 100uF,6.3V,Elect.
C4600~C4602	393384707	47uF,50V,Elect.
C4607	393384707	47uF,50V,Elect.
C4610~C4617	374721024	1000pF+/-5%,50V,Plastic film
C4800,C4801	354741009	10uF,16V,Elect.
C4802,C4803	354780229	2.2uF,50V,Elect.
C4806,C4807	354721019	100uF,6.3V,Elect.
C4808,C4809	374722224	2200pF+/-5%,50V,Plastic film
	Resistors	
R4120,R4121	443522204	22ohm+/-5%,1/2W,Metal oxide
R4320~R4325	443522204	22ohm+/-5%,1/2W,Metal oxide
R4920,R4921	443522204	22ohm+/-5%,1/2W,Metal oxide
	Terminals	
P3600,P4600	25045707	NPJ-4PDGPRW502
P3601,P4601	25045709	NPJ-4PDELNT504
	Sockets	
P4010B	25051235	NSCT-10P1025
P4011B,P4020B	25051240	NSCT-15P1030

Note:

: Black model only

<G>: Golden model only

<D>: 120V model only

<O>: Other models except 120V model

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs	
P4012A	25055734	NPLG-3P690
P5003E	25055152	NPLG-8P136
P5004E	25055153	NPLG-9P137
	Bars	
J4220~J4223	27141851	BBL60
	Holders	
P4610C~P4610E	27190540-1	Clamp
	Clamper	
P5004G	27190608-1	UA-0 V0

Audio terminal PC board (NAAF-7719-1K/1L/1M)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q1001	222780125	78M12HF
Q3000,Q3020	22241383R2 or 22240489R1NE	NJM4565M-D or MPC4570G2-T1(MST)
Q3021	22241639R2	TC9273F-017
Q3100		
	Capacitors	
C1002,C1007	354741009 or 394641007	10uF,16V,Elect. or 10uF,16V,Elect.
C1003,C1006	354780339 or 394680337	3.3uF,50V,Elect. or 3.3uF,50V,Elect.
C3000,C3001	374722215	220pF+/-10%,50V,Plastic film
C3002,C3003	393384707	47uF,50V,Elect.
C3004,C3005	374721524	1500pF+/-5%,50V,Plastic film
C3006,C3007	354722219	220uF,6.3V,Elect.
C3008,C3009	374721234	0.012uF+/-5%,50V,Plastic film
C3010,C3011	374723924	3900pF+/-5%,50V,Plastic film
C3020~C3023	374723315	330pF+/-10%,50V,Plastic film
C3026~C3029	393384707	47uF,50V,Elect.
C3120,C3121	354742219 or 394642217	220uF,16V,Elect. or 220uF,16V,Elect.
C3122,C3123	354744709 or 394644707	47uF,16V,Elect. or 47uF,16V,Elect.
	Resistors	
R3120,R3121	443522204	22ohm+/-5%,1/2W,Metal oxide
	Terminals	
P3000,P3001	25045575 or 25045303	NPJ-4PDRW389 or NPJ-4PDBL162
	Sockets	
P1010A	25052248, 25051859 or 25052061	NSCT-15P2145, NSCT-15P1646 or NSCT-15P1848
P3010B	25051232	NSCT-7P1022
P3011B	25051240	NSCT-15P1030

Video input terminal PC board (NAAF-7720-1K/1L/1M)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3200~Q3205	22241383R2 or 22240489R1NE	NJM4565M-D or MPC4570G2-T1(MST)
Q3300	22240829	TC9274N-008
	Capacitors	
C3200~C3203	374723315	330pF+/-10%,50V,Plastic film
C3205~C3209	374723315	330pF+/-10%,50V,Plastic film
C3212~C3223	393384707	47uF,50V,Elect.
C3320,C3321	354742219 or 394642217	220uF,16V,Elect. or 220uF,16V,Elect.
	Resistors	
R3320,R3321	443522204	22ohm+/-5%,1/2W,Metal oxide
	Terminals	
P3201	25045571 or 25045300	NPJ-6PDRW386 or NPJ-6PDBL159
P3202,P3203	25045575 or 25045303	NPJ-4PDRW389 or NPJ-4PDBL162
	Sockets	
P3210B,P3211B	25051232 25051232	NSCT-7P1022 NSCT-7P1022
	Plug	
P3220A	25055133	NPLG-3P117

<T>: Worldwide model only

<GT>: 220-230 V model only

<A>: Australian model only

<R>: Chinese model only

PRINTED CIRCUIT BOARD-PART LIST 6

Main connector PC board (NAAR-7728-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2910,Q2913	22241383R2	NJM4565M-D <T/R/GT>
Q2923	222780155JRC	NJM78M15FA
Q2924	222790155JRC	NJM78M15FA
	Transistors	
Q2901,Q2903	2216175R2 or	KTC3875-GR or
Q2905,Q2907	2213145R2	2SC2712-GR
Q2902,Q2904	2216220R2 or	KRA102S or
Q2906,Q2908	2214530R2	RN2402
Q2909	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
	Diodes	
D2901~D2903	223234R2 or	1SS352 or
D2922,D2923	223269R2	1SS355
	Capacitors	
C2902~C2905	354741009	10uF,16V,Elect.
C2908	374722724	2700pF+/-5%,50V,Plastic film
C2916	374721224	1200pF+/-5%,50V,Plastic film
C2917,C2918	354741009	10uF,16V,Elect. <T/R/GT>
C2923~C2926	354761009	10uF,35V,Elect.
	Resistors	
R2912	453530474	4.7ohm+/-5%,1/2W,Metal
R2913	453530224	2.2ohm+/-5%,1/2W,Metal
	Relay	
RL2901	25065563	NRL-2P5A-DC24-129
	Sockets	
P2901A	25051826	NSCT-19P1613
P4012A	25051255	NSCT-3P1045
P7201B	25051838	NSCT-31P1625
P9502B	2009990748UL	NSAS-24P1045
	Plugs	
P2005A	25055709	NPLG-13P665
P2006A	25055806	NPLG-17P762
P2505A	25055710	NPLG-14P666
P2705A	25055804	NPLG-4P760
P3010A	25055703	NPLG-7P659
P3011A	25055711	NPLG-15P667
P3210A,P3211A	25055703	NPLG-7P659
P4010A	25055706	NPLG-10P662
P4011A,P4020A	25055711	NPLG-15P667
P7002A	25055704	NPLG-8P660
P7003A,P800A	25055712	NPLG-20P668
P7004A	25055805	NPLG-16P761
	Clamp	
P2902	260224	CP-1S

Composite video terminal PC board (NAVD-7729-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2001	22241848R2	LC74761M-9845
Q2010	22241619R2	TC9273F-004
Q2101	222740515R2	74HC4051AF
Q2102,Q2105	22241443R2	TK15420M
Q2201	222740515R2	74HC4051AF
	Transistors	
Q2002~Q2005	2216220R2 or	KRA102S or
	2214530R2	RN2402
Q2006,Q2008	2216175R2 or	KTC3875-GR or
Q2103,Q2106	2213145R2	2SC2712-GR
Q2007,Q2012	2216210R2 or	KRC104S or
	2214490R2	RN1404
Q2009,Q2104	2216185R2 or	KTA1504-GR or
Q2107	2214375R2	2SA1162-GR
Q2011	2214550R2	RN2404
Q2301~Q2315	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
	Diodes	
D2001~D2003	223234R2 or	1SS352 or
D2006,D2007	223269R2	1SS355
D2103,D2104	223234R2 or	1SS352 or
D2106,D2107	223269R2	1SS355

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L2001	231292J056R2	NCH-1572
L2002	231237K022R2	NCH-1471
	233533K022R2	NCH-1587-022K
X2001	3010363	HC-49/U0314.318M
X2002	3010364	HC-49/U0317.734M <O>
	Capacitors	
C2009,C2016	354780109	1uF,50V,Elect.
C2010,C2021	354721019	100uF,6.3V,Elect.
C2011	375524744	0.47uF+/-5%,50V,Plastic film
C2012	354784799	0.47uF,50V,Elect.
C2015	374722234	0.022uF+/-5%,50V,Plastic film
C2017	374726824	6800pF+/-5%,50V,Plastic film
C2018	354783399	0.33uF,50V,Elect.
C2022,C2047	354721019	100uF,6.3V,Elect.
C2024,C2026	354741009	10uF,16V,Elect.
C2028	354741009	10uF,16V,Elect.
C2104,C2106	354721019	100uF,6.3V,Elect.
C2204,C2206	354721019	100uF,6.3V,Elect.
C2221	354721019	100uF,6.3V,Elect.
C2301~C2304	354721019	100uF,6.3V,Elect.
C2306	354721019	100uF,6.3V,Elect.
C2338	354724719	470uF,6.3V,Elect.
	Terminals	
P2001~P2003	25045299	NPJ-3PDYE158
	Sockets	
P2005B	25051238	NSCT-13P1028
P2006B,P2007B	25051528	NSCT-17P1315

S video terminal PC board (NAVD-7730-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2451	22241849R2	MM1512
Q2501,Q2511	222740515R2	74HC4051AF
Q2502,Q2602	22241443R2	TK15420M
Q2601,Q2611	222740515R2	74HC4051AF
	Transistors	
Q2401,Q2402	2216031R2 or	RN1444-A or
Q2404,Q2405	2216032R2	RN1444-B
Q2403,Q2406	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B <O>
Q2407~Q2414	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
Q2503,Q2505	2216175R2 or	KTC3875-GR or
	2213145R2	2SC2712-GR
Q2504,Q2506	2216185R2 or	KTA1504-GR or
	2214375R2	2SA1162-GR
	Diodes	
D2503~D2506	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L2471,L2473	231237K022R2	NCH-1471
L2472,L2474	231292J056R2	NCH-1572 <O>
	Capacitors	
C2422,C2424	354721019	100uF,6.3V,Elect.
C2426,C2428	354721019	100uF,6.3V,Elect.
C2432,C2452	354721019	100uF,6.3V,Elect.
C2504,C2506	354721019	100uF,6.3V,Elect.
C2573,C2575	354721019	100uF,6.3V,Elect.
C2604,C2606	354721019	100uF,6.3V,Elect.
C2608,C2616	354780229	2.2uF,50V,Elect.
	Sockets	
P2501	25051750	NSCT-4P1537
P2502	25051568	NSCT-12P1355
P2503,P2504	25051748	NSCT-8P1535
P2505B	25051239	NSCT-14P1029
P2507B	25051528	NSCT-17P1315
	Plug	
P2506A	25055236	NPLG-5P220

Note:

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 <G>: Golden model only
 <D>: 120V model only
 <O>: Other models except 120V model

<T>: Worldwide model only
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 <R>: Chinese model only

PRINTED CIRCUIT BOARD-PART LIST 7

Component video terminal PC board (NAVD-7731-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q2701	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
	Diodes	
D2701,D2702	223234R2 or 223269R2	1SS352 or 1SS355
	Relays	
RL2701,RL2702	25065610	NRL-2P1A-DC4.5-156
	Socket	
P2705B	25051526	NSCT-4P1313
	Terminals	
P2701~P2703	25045629	NPJ-3PDGLR436

RS232 terminal PC board (NAETC-7733-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q233	222780565	78M56
	Transistors	
Q231,Q232	2213145R2 or 2216175R2	2SC2712-GR or KTC3875-GR
Q2921,Q2922	2216190R2 or 2214470R2	KRC102S or RN1402
	Photo coupler	
Q211	24120080	PC817X
	Diodes	
D201~D203	223234R2 or 223269R2	1SS352 or 1SS355
	Capacitors	
C231	354741009	10uF,16V,Elect.
C232	354751029S	1000uF,25V,Elect.
C2921	354721019	100uF,6.3V,Elect.
C2922	374722234	0.022uF+/-5%,50V,Plastic film
	Resistor	
R233	453532294	0.22ohm+/-5%,1/2W,Metal
R234	441721514	150ohm+/-5%,2W,Metal oxide
	Terminals	
P202	25045647	HSJ1002-01-1020
P205	25045696	LGY2502-0200C
	Sockets	
JL931A	25051107	NSCT-3P894
P2901B	25051826	NSCT-19P1613
P6830B,P6832B	25051255	NSCT-3P1045
	Plug	
P2906	25055701	NPLG-5P657
	Radiator	
Q233A	27160145	RAD-51
	Screw	
Q233B	82143010	3P+10FN(BC),Pan head

Connecttor PC board (NAETC-7734-1K/1L/1P)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs	
P2007A,P2507A	25055806	NPLG-17P762

Display circuit PC board (NADIS-7746-1A/1B/1C/1D/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7501	212234	HNA-16MM40T
	Remote sensor	
U7201	241335 or 241341	SPS-444-1 or SPS-444-1-E1
	ICs	
Q7201	22241860R3 or 22241512	M30624MGA-***FP or M30624FGAFP
Q7502	22241680AR2	M66005-0001AFP
	Transistors	
Q7202	2216230R2 or 2214540R2	KRA103S or RN2403
Q7503,Q7504	2216175R2 or 2213145R2	KTC3875-GR or 2SC2712-GR
Q7521~Q7527	2216190R2 or	KRC102S or
Q7529~Q7532	2214470R2	RN1402
Q7538,Q7539	2216175R2 or	KTC3875-GR or

CIRCUIT NO. PART NO. DESCRIPTION

Q7546	Transistors	2213145R2	2SC2712-GR
Q7547~Q7549		2216190R2 or 2214470R2	KRC102S or RN1402
	Diodes		
D7201~D7204		223234R2 or 223269R2	1SS352 or 1SS355
D7502		224491100R2 or 224551100R2	UDZ11B or UDZS11B
D7501		225375	SML1216C
D7521		225375	SML1216C
D7523~D7526		225375	SML1216C
D7529~D7532		225292D	SEL4310G-D
D7536~D7539		225291D	SEL4910D-D <G>
	Coils		
L7201		231237M022R2 or 233533M022R2	NCH-1471 or NCH-1587-022M
R7201,R7202		230958R1	BK1608LM182-T
	Ceramic resonator		
X7201		3010322	CST16.00MXW0C1
	Capacitors		
C7201,C7202		355721019	100uF,6.3V,Elect.
C7203,C7204		375524744	0.47uF+/-5%,50V,Plastic film
C7207,C7503		355721019	100uF,6.3V,Elect.
C7506		375524744	0.47uF+/-5%,50V,Plastic film
C7510		355783309	33uF,50V,Elect.
	Switches		
S7542		25035714 or 25035699	NPS-111-S677 or NPS-111-S662
S7544~S7549		25035714 or 25035699	NPS-111-S677 or NPS-111-S662
S7552~S7559		25035714 or 25035699	NPS-111-S677 or NPS-111-S662
S7593~S7568		25035714 or 25035699	NPS-111-S677 or NPS-111-S662
S7571~ S7579		25035699	NPS-111-S662
	Sockets		
JL7202A		25051089	NSCT-5P876
JL7203A		25051096	NSCT-12P883
P7201A		25051875	NSCT-31P1662
P7559A		25051087	NSCT-3P874
	Plug		
P7203		25056056	NPLG-8P1006
	Holder		
Q7501A		27191074A	(FL)

Volume PC board 8NAETC-7748-1A/1B/1C/1D/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Rotary encoder	
S7569	25065575	EC16B2425
	Socket	
P7559B	25051087	NSCT-3P874

Headphone terminal PC board 8NAETC-7749-1A/1B/1C/1D/1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Headphone jack	
P7481	25045514	YKB26-5005 <D>
P7481	25045385	YKB26-5153 <O>
	Socket	
JL7202B	25051089	NSCT-5P876

Front video PC board (NAETC-7721-1K/1L/1M)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P2510	25045674 25045675	NPJ-3PDB472 <D> NPJ-3PDB473 <O>
	Sockets	
P2506B	2009990575UL	NSAS-10P0784
P2508	25051961	NSCT-4P1748 <D>
	25051569	NSCT-4P1356 <O>
P3220B	2009990420	NSAS-6P0564

Front opto. input PC board (NAETC-7722-1K/1L/1M)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo coupler	
U2501	24120101 24120101	TORX179L TORX179L

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